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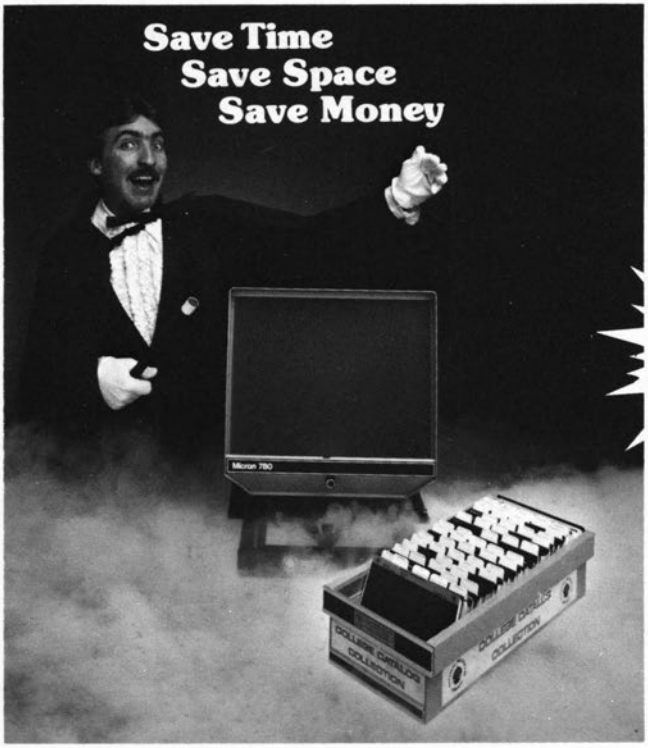

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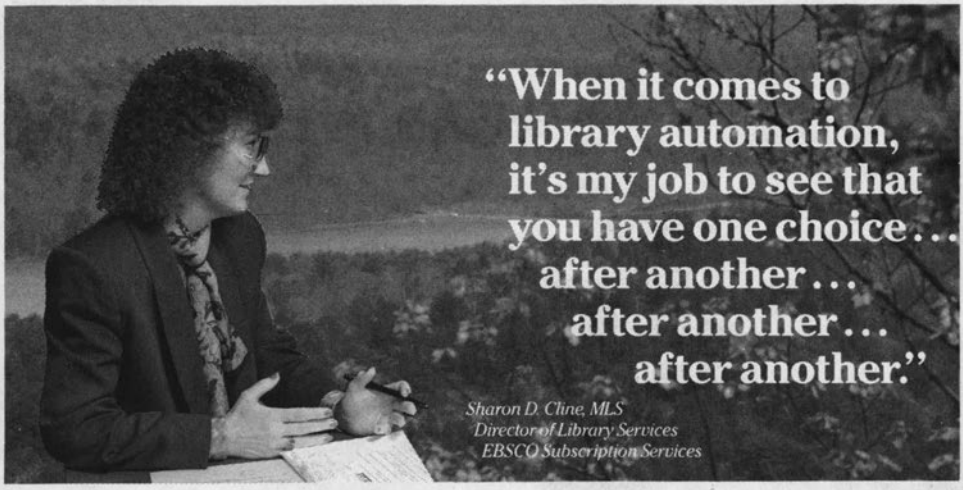

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COLLEGE & RESEARCH LIBRARIES

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Editorial

A. F. Kuhlman was the first editor of *College & Research Libraries*. In his introductory editorial fifty years ago Kuhlman listed the purposes of the new journal. Some still apply: provide news, publish articles, build bridges of understanding, promote research, and improve the practice of academic librarianship. The news function changed with the formation of *College & Research Libraries News* in 1966.

Most of the goals are ongoing, but one has been realized—"help to develop the ACRL into a strong and mature professional organization." In a contributed article, "ACRL's Fiftieth Anniversary: For Reflection, for Celebration, and for Anticipation," Edward G. Holley describes how the association has grown and prospered.

Several authors who will be contributing articles to each issue of this anniversary volume have noted a similarity of themes between then and now. In Kuhlman's first editorial, he discussed the crisis in higher education. In this issue, Barbara B. Moran follows the crisis of the late 1930s up to the present and beyond. One can infer from her title, "The Unintended Revolution," that the crisis has continued.

Legendary figures played a major role as authors in the inaugural issue: Robert B. Downs, Ralph E. Ellsworth, Lawrence Clark Powell, Louis Shores, Carl M. White, and Louis Round Wilson discussed everything from buildings, rare books, and library education, to trends, and buying for large and small libraries. As time passes, the type of contributor has changed greatly: today many more articles are written by women, coauthors are much more prevalent, and geographical representation has broadened. In "A Statistical Profile of *College & Research Libraries*," Paul Metz provides a detailed account of what *C&RL* was and is.

It has been a fascinating fifty years. In a reprint of Fremont Rider's article "The Future of the Research Library," taken from his book, *The Scholar and the Future of the Research Library*, one can see how magnificent, creative ideas sometime fade in the full glare of reality. Yet Rider's microformat solution to the access and storage problems facing librarians in the 1940s remains as a voiceless tribute to the inquiring minds in our profession.

Guest editorials by previous editors David Kaser, Richard M. Dougherty, Richard D. Johnson, and C. James Schmidt will appear in the next four issues. Each will also select an article published during his tenure as editor to appear as a reprint.

Many librarians have made *C&RL* into the premier research journal in academic librarianship. From all the past editors to all authors, past and future, a debt of appreciation must be passed along. You have improved service, created knowledge, and provided understanding. Our clients, our libraries, and our institutions have benefited enormously. As we all carry out the promise inherent in the unintended revolution, let us stay true to our heritage and build onto our already strong service ethos.

Harold L. Leupp, Librarian at the University of California, worded it better fifty years ago:

> I have never heard the idea advanced that Omar was a university librarian, but certainly he expressed the heartfelt yearnings of many such, struggling to render adequate service in unadaptable tombs of literature, when he warbled to his girl friend:
>
> Ah Love! could thou and I with Fate
> conspire

To grasp this sorry Scheme of Things
entire,
Would not we shatter it to bits and then
Re-mould it nearer to the Heart's Desire!

Happy fiftieth anniversary, *College & Research Libraries*.
CHARLES MARTELL

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—G. Flint Purdy, "Investigating Library Problems" (March 1940), p.141

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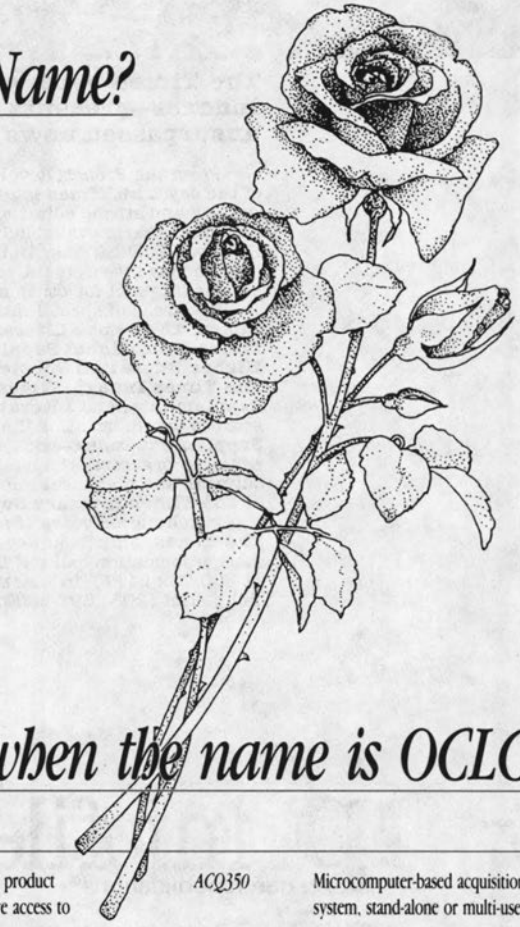

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50th Anniversary Feature—

ACRL's Fiftieth Anniversary: For Reflection, for Celebration, and for Anticipation

Edward G. Holley

We want to link the past with the future, and the 100th anniversary of the College Library Section gives us an excellent opportunity for reflection, for celebration, and for anticipation of the next 100 years.—Martha A. Bowman, cochair, ACRL Fifth National Conference, *Research Libraries in OCLC: A Quarterly*, Autumn 1987.

REFLECTION: THE BIRTH OF *COLLEGE & RESEARCH LIBRARIES*

When A. Frederick Kuhlman edited the first issue of *College & Research Libraries* (December 1939), he pronounced its aims in the authoritative manner that was his hallmark. *C&RL* was to serve as the communications medium for the new ACRL, but the journal was to do much more than that. The quarterly was also to publish articles from convention speeches, to serve as a clearing-house for educational research, to bridge the gap between college administrators/faculties and librarians, to serve as a bridge with other agencies and learned societies, to review and abstract books of interest to ACRL members, to stimulate research on improving library service and publish the research results, and to "help develop the A.C.R.L. into a strong and mature professional organization."[1]

Those were ambitious gaols, to say the least. But in retrospect it is amazing not only that Kuhlman's aims and goals have been achieved in the last fifty years, but also how similar those aims and goals are to the current ACRL Strategic Plan.[2] Indeed, A. F. Kuhlman would probably be amazed, surely gratified, at how far academic librarians have come since the days when he did battle with ALA Executive Secretary Carl Milam (1920–48) and the ALA establishment. For Kuhlman and his colleagues were anything but reticent about ALA's neglect of matters that concerned academic librarians.

At the heart of the disagreement was the ALA headquarters staff's lack of understanding of the nature of higher education and the academic library's relationship to scholarship and learning. Academic librarians believed the way to success in the academic library was to be more like the faculty, interested in scholarship, concerned about teaching, and devoted to research and publication. In that effort *C&RL* was to play a crucial role. As David Kaser, one of Kuhlman's successors as ed-

Edward G. Holley is Professor at the School of Information and Library Science, University of North Carolina, Chapel Hill, North Carolina 27599-3360.

itor (1963–69) later commented, "*C&RL* was a periodical intended at once to be [ACRL's] news bulletin, scholarly journal, and its forum."[3] At various stages it served all three functions well. Today, after the spin-off of the news to *College & Research Libraries News* in 1966, *C&RL* is primarily a scholarly journal, indeed often the most cited and highly rated among all the scholarly periodicals in the field of librarianship.[4] But ACRL and *C&RL* have been a long time reaching that eminent position.

ACADEMIC LIBRARIANS AND ALA: THE ACRL BACKGROUND

Despite the fact that college and university librarians had formed the first ALA section in 1889, there is little doubt that public librarians dominated the association's leadership well into the second half of the twentieth century. True, the first three ALA presidents could be regarded as academic types: Justin Winsor (1876–85), who had been Boston public librarian for nine years before transferring his allegiance across the river to Harvard in 1877; William Frederick Poole (1885–87), whose strong commitment to the public library did not preclude historical scholarship; and Charles Ammi Cutter (1887–89), librarian at the Boston Athenaeum, whose "delicate and accurate scholarship" in his famous catalog was well recognized in the scholarly community. But it was chiefly to the rapidly expanding public libraries that the association looked for leadership during its first 100 years; it was public library concerns that occupied most of the association's attention.

Of course there were scholars who assumed the presidency of ALA during its first century, e.g., Reuben Gold Thwaites, William Warner Bishop, Louis Round Wilson, but their presence did not alter ALA priorities. As Wayne Wiegand has noted, there were 45 public librarians among the first 100 ALA presidents (1876–1986), outnumbering academic librarians 2.6 to 1.[5]

After World War I academic librarians expressed increasing disillusion with ALA's neglect. Criticism began to be voiced after William Warner Bishop's presidency (1918–19) and the failed ALA effort in 1919–20 to secure funds for massive improvement in library service. This "Enlarged Library Program" has been described by historian Dennis Thomison as ALA's short-lived experiment as a welfare organization.[6]

For the next two decades academic librarians' dissatisfaction grew until it finally culminated in the birth of ACRL in 1938.

THE COLLEGE AND REFERENCE LIBRARY SECTION

From its beginning in 1889, the ALA College Library Section was mainly a small discussion group of academic library administrators. To accommodate reference librarians, the section changed its name to the College and Reference Library Section in 1897. However, though the section began electing officers early in the twentieth century, it remained small until 1923 when it adopted its first set of bylaws. Growth was rapid after that, from 90 members in 1923 to 800 members in 1928, though membership declined after 1928. Still, throughout the twenties, the College and Reference Library Section had obviously begun to attract attention. Growth of the section doubtless reflected both the changes in American higher education and the growth of colleges and universities in the first quarter of the century. With larger enrollments came expanded libraries and more librarians.

"Many academic librarians—both behind the scenes and occasionally in public—began to argue for a stronger professional organization that would emphasize bibliographic and scholarly activity to meet their needs in serving an expanding higher education community."

The section's programs reflected perennial issues in academic librarianship: personnel and faculty status, teaching students the use of the library, standards,

interlibrary loans, and on- and off-campus services. Though formal and informal discussion of these issues continued until 1938 (and indeed throughout ACRL's fifty-year history), many academic librarians—both behind the scenes and occasionally in public—began to argue for a stronger professional organization that would emphasize bibliographic and scholarly activity to meet their needs in serving an expanding higher education community.

In 1921 Ernest J. Reece and his library school students began a series of articles, "College Library News," in the *Library Journal*. The articles offered current information on personnel changes, publications, buildings, gifts, and appointments for the period covered. This series continued through the midforties. *C&RL* began publishing the series in 1943 but dropped it in 1945.

Other events in the twenties promoted a sense of need for a stronger forum for academic librarians. George Works' book, *College and University Library Problems* (1927), the result of a survey financed by the Carnegie Corporation, drew attention to the status of academic libraries and had a tremendous impact on librarians and some university administrators.

The emergence of the Graduate Library School (GLS) at the University of Chicago, another major Carnegie venture, offered both hope and skepticism in the library community. GLS aimed to prepare leaders through a program of research at the Ph.D. level, and thus do for librarianship what Harvard had done for law and John Hopkins for medicine, to use Carnegie President Keppel's phrase.

The first significant open disagreement with ALA came from Frederick Telford's study of library staff classification and pay plans in the midtwenties. ALA had employed Telford to do for librarians what was already being done by the federal government for civil service workers: define jobs and establish pay scales.[7] What happened was a not-so-subtle revolt of the academic librarians in ALA. They believed that Telford didn't understand academia (he didn't) and that a plan that might work well for public librarians would not work at all for academic librarians. Consequently a subcommittee was appointed, under the leadership of Charles Harvey Brown (1875–1960), to develop a supplementary plan for librarians in higher education. Charlie Brown, who would later defend a higher status for academic librarians in the "Library" section of the U.S. Bureau of Education's massive study of land grant colleges and universities (1930), went to work with typical zeal and developed a separate report—*Budgets, Classification, and Compensation Plans for University and College Libraries* (1929)—adopted as a supplement to the Telford plan for public librarians.

By the late twenties the section began to consider its future seriously. High among its priorities were bibliographic tools and a publication that would address the specific needs of academic librarians. Thus began the short-lived *College and Reference Library Yearbook* (1929–31). The *Yearbook* was dropped after only three years, ostensibly because it didn't pay its way (probably a result of the Great Depression) but also because a suitable editor couldn't be found.

The Carnegie Corporation, responsible for GLS' emergence, also expanded its interest in academic libraries.[8] The Corporation sponsored surveys, standards, book collections, and basic book lists by underwriting the Charles Shaw and Foster Mohrhardt predecessors to *Books for College Libraries*. The corporation's efforts gave added emphasis to the ALA's neglect of such matters. These activities have been well covered in Neil Radford's book *The Carnegie Corporation and the Development of American College Libraries, 1928–1941*, ACRL Publications in Librarianship, no.44.

Partly in response to the unrest among academic librarians, especially their request for a college library specialist at headquarters (turned down for financial reasons), ALA established a College Library Advisory Board (CLAB) in 1931. Despite the board's membership of librarians from such notable institutions as Michigan (Bishop); Vassar (Borden); Iowa State (Charles Brown); and Penn State (Lewis), the board was not very effective, chiefly

for financial reasons, according to Radford, but also because of lack of interest on the part of ALA headquarters staff, according to Blanche McCrum (1887–1969), Washington & Lee University librarian, who found her services as chair of CLAB frustrated by headquarters.[9]

CLAB did not stop the growing discontent in the thirties as the Carnegie Corporation, chiefly influenced by Bishop at Michigan and Louis Round Wilson at GLS, invested not only in research and bibliographic compilations but also in grants for college library book collections.

In 1932 university library directors disbanded their recently formed Administrators Round Table in favor of a separate Association of Research Libraries where they could discuss problems of large libraries.

By the midthirties a number of leading academic librarians were pushing for a reorganization of ALA to reflect the diverse interests of the association through stronger subunits. In 1936 the section approved a committee under Brown's leadership to study reorganization. The *ACRL Organization Manual* (1956) called the Brown committee's report of 1937 "the key document of ACRL history."[10] Acceptance of the report was to result not only in "a radical reorganization" of the section (Brown's phrase), renaming it the Association of College and Reference Libraries in 1938, but also in ACRL's becoming the first ALA division in 1940.

The restructured ALA emerged from implementation of the report of its Third Activities Committee, which Brown also headed immediately upon completion of his report on the College and Reference Library Section. Brown had served on the Second Activities Committee and subsequently was to be ALA president in 1940–41, so he could see that his four years' work on ALA restructuring was neither neglected nor hindered by headquarters.

The ALA activities committees were an outgrowth of criticism leveled by that perennial gadfly and founder of the separate Special Libraries Association, John Cotton Dana. In 1919 Dana, in a stinging criticism, had said that the chief ALA problem was "the lack of brains on the part of the members." He followed that criticism with another letter in 1927 that was highly critical of ALA's efforts in library education. The result had been the first Activities Committee, which reported in 1930, and another activities committee that reported in 1934. Neither the first nor the second committees' recommendations had resulted in significant organizational change, however. The Third Activities Committee was different, though the results would not be apparent for a decade. The difference came from the political skills of Charles Harvey Brown and, subsequently, ACRL's 1945–46 president, Blanche Prichard McCrum.

While the Third Activities Committee's achievement was, in form, the "radical reorganization" that Brown intended, it never resulted in a federation-type organization that brought in separate library associations like SLA in an umbrella arrangement, as Brown desired. The reorganization did give major ALA units semiautonomous status, however, and, after ACRL's threatened secession in 1946, an executive secretary of its own—the long-desired college library specialist at headquarters.[11] Subsequently, despite the partial success of the Cresap, McCormick, and Paget management/organizational study in the midfifties, and the failure of ACRL President Ralph Ellsworth's second attempt at secession in the early sixties, ALA did move toward stronger divisions.[12] Much later, after the turmoil of the late sixties and early seventies, realistic self-determination came only after the change in the ALA dues structure in 1974.[13]

LEADERSHIP: PRESIDENTS AND EXECUTIVE SECRETARIES

The obvious leader for the new Association of College and Reference Libraries (the name was changed to Association of College and Research Libraries in 1957, when the reference librarians departed to form their own division) was Charles Harvey Brown. When Brown declined to be selected as ACRL's first president, it was not because he was reluctant to assume that responsibility. His reasons were clear: he wanted to see the recommenda-

tions of the Third Activities Committee implemented, and he did not intend to leave that to chance. What he did was to convince Frank K. Walter to become the first ACRL president and thus assure continuation of the thrust that had already been established. Correspondence in the ALA archives and in Brown's other letters indicates well his manipulation of the process. He had conducted an exhaustive survey of the ALA membership, spoken and written extensively on ALA restructuring, and was confident that decentralization of ALA was desired by the membership as well as desirable for academic librarians. Fortunately for him (though fortune probably had little to do with it), Brown was elected ALA vice-president in 1939 and served as president in 1940–41. Thus he was in the enviable position of assuring that his reorganization plan was carried out. In J. Victor Baldridge's terms, Charlie Brown was truly a "Machiavellian change agent" for ALA and ACRL.[14]

In the intervening fifty years, ACRL has had some remarkable leaders. After the secession movement of 1946, led by Blanche McCrum and Ralph Ellsworth, there were frequent tensions between ACRL and ALA. Many members did not believe that ACRL could trust the parent ALA to do the right thing by its major division. The strongest of that group was undoubtedly Ralph Ellsworth, the only person to have served two terms as ACRL president (1951–52; 1961–62). A leader in the 1946 battle, Ellsworth was a frequent ALA critic. In an oft-quoted article, "Critique of Library Associations in America," in *Library Quarterly* (1961) on the eve of his second ACRL presidency, Ellsworth reiterated his criticisms of the organization.[15] While recognizing the importance of ALA's battles for intellectual freedom, federal legislation, international relations, and the welfare of all librarians, he also thought the organization was too bureaucratic, too big, and too indifferent to specialized interests of academic, public, and special librarians. He argued once more for ALA as a workable federation of library associations.

In response to this critique, ALA Executive Director David Clift noted that Ellsworth would soon have the opportunity to try to bend ALA to his will, because he would shortly be ACRL president again. Ellsworth himself did not think that would occur, and it didn't.[16] His dream of a separate ACRL and a federation of library associations was delayed another decade, until the ALA changed its dues structure, transcended the old arguments, and became, in fact if not in theory, a federation.

That old attitudes die slowly was clear to this author when he joined several persons to testify before the ALA Executive Board in support of ACRL's request to hold a second national conference. Talk of secession *if* the board declined to grant permission was again in the air on the night before the meeting—political naïveté. Few boards willingly confront a phalanx of distinguished representatives from their largest unit without giving them what they want. The ALA Executive Board usually backs down under strong protests from its smallest unit; there was no likelihood of turning down a request from its major division.

What kind of persons have led ACRL in the last fifty years? Among the leaders one should certainly include presidents and executive secretaries, but also those who have edited its journal, *C&RL*. An examination of the leaders' backgrounds and interests is revealing (see appendix A for a list of ACRL presidents and executive secretaries/directors).

From the beginning, university librarians have been the most numerous among ACRL presidents. Starting with Frank K. Walter at the University of Minnesota and continuing through Joseph W. Boisse at the University of California–Santa Barbara, in 1988–89, they constitute a remarkably strong group of leaders—this despite the competition from ARL, which, it has often been said, drained ACRL of the real academic library leadership. Of course not all of these presidents came from ARL libraries, but many have—including a number of the most recent presidents.

Not surprising, in view of the fact that approximately fifty percent of the membership comes from university libraries, those institutions account for 35 of the 50

persons who have served as ACRL presidents.[17] Eight came from college libraries, one from a community college library, two each from public libraries and other types of libraries, and two from library schools. Of the college librarians, three were from women's colleges. Most of the ACRL presidents have been library directors.

Five ACRL presidents have subsequently been elected ALA presidents, as has one ACRL executive director.

WOMEN AND MINORITIES IN LEADERSHIP POSITIONS

In a gender-conscious age, one should note that only sixteen of the presidents have been women, though six of those served in succession from 1982–1988.

Beverly Lynch, who became executive secretary in 1972, was the first woman to hold that office. Since that time all executive secretaries/directors (the title was changed to executive director in 1980–81) have been women.

For reasons not clear to this author, no woman has ever served as editor of *College & Research Libraries* nor has one ever served as editor of *ACRL Publications in Librarianship*. However, one should note that a number of gender studies indicate that women librarians have not been as active in publishing as men. Cline's study indicated that males accounted for an overwhelming 80 percent of the contributing authors and 73 percent of the cited authors in *C&RL* during its first forty years.[18]

Two well-known reference librarians, Mabel L. Conat, Detroit Public Library, and Winifred Ver Nooy, University of Chicago (and the 1944–45 president who initiated the protest of 1945–46), have served as president. Female presidents from college libraries are Blanche McCrum (Wellesley); Eileen Thornton (Oberlin); Helen Brown (Wellesley); and Anne Edmonds (Mount Holyoke).

Two black persons have served as president: Joseph H. Reason of Howard University and the late Louise Giles from Macomb County Community College, Michigan.

EXECUTIVE SECRETARIES/DIRECTORS

One of the strong arguments for separate status had included the need of having a college library specialist at ALA headquarters. Many persons familiar with ALA's bureaucracy believe that ACRL has been especially fortunate, not only in the quality of persons serving as executive secretaries/directors but also in capable headquarters staff who did not stay too long, as did two ALA executive secretaries, Carl Milam and David Clift.

The first executive secretary, N. Orwin Rush, stayed only two years (1947–49). He was succeeded by "young Arthur Hamlin, fresh from the University of Pennsylvania," under those tenure new publications emerged, including the first ACRL monograph in hard cover, Charlie Brown's *Scientific Serials* (1956). Hamlin served for seven years (1949–56). Both Richard D. Harwell, 1957–61, and J. Donald Thomas, 1968–72 (the period of the revolting librarians), served four year terms. Mark Gormley, 1961–62, and Joseph Reason, 1962–63, were really interim executives. George Bailey, 1963–68, served five years as did Beverly Lynch, 1972–77.

The three women executives, Beverly Lynch; Julio Virgo, 1977–84; and JoAn Segal, 1984– , have served during a time of transition for ALA divisions and a period of extraordinary growth for ACRL. During their tenure the publications programs, standards and guidelines, policy and planning documents, continuing education programs, and the national conferences have either been initiated or expanded. The executives have also been effective in seeking and maintaining divisional relationships with other professional and scholarly associations in higher education, a matter often talked about but frequently overlooked in the face of more pressing concerns.

While terms of seven years or less may be a cause for congratulation, short terms are scarcely the chief reason for their success. Each person has brought a strong background in academia and has understood the aims and goals of academic librarians. Each has also been supported by strong presidents and vice presidents. Housed as they were at ALA headquarters, each executive also had to balance the unique ACRL interests against the inter-

ests of ALA as a whole—often not an easy task. Nor was strengthening the ties between chapters and ACRL headquarters easy, since visits and speeches by staff and ACRL presidents are both necessary and time-consuming. By any objective standard leadership at headquarters has been excellent. One can only be amazed that so much good work is done by so few persons.

"Kuhlman aimed for *C&RL* to be both a communications medium and a vehicle for scholarship."

PUBLICATIONS AND THEIR EDITORS

College & Research Libraries

Kuhlman aimed for *C&RL* to be both a communications medium and a vehicle for scholarship. Initially, the journal did both, first under Kuhlman himself (1939–41), then under Carl M. White (1941–48), followed by the long-term editor Maurice F. Tauber (1948–62).

Begun as a quarterly, *C&RL* became a bimonthly in 1956. Tauber's successors include a series of well-known librarians who worked steadily to improve the quality and scholarship of the articles: Richard B. Harwell, David Kaser, Richard M. Dougherty, Richard D. Johnson, C. James Schmidt, and Charles Martell. During the expansion of higher education in the sixties, ACRL approved a separate publication for the news section. *ACRL News*, later renamed *College & Research Libraries News* was first published in March 1966. In its 22 years of existence *C&RL News* has grown to an incredible 748 pages per year and now publishes opinion pieces and short research articles, as well as news, ads, and official ACRL information eleven times a year. Meanwhile, *C&RL*, continues as a bimonthly of approximately 650 pages a year.

Gloria S. Cline, in evaluating *C&RL*'s first forty years, noted that the journal has been a leading library science periodical since it first appeared.[19] She also reported that *C&RL*'s scholarliness improved over the period 1939–79 so that it compares very favorably with journals in other disciplines, especially in numbers of references per article and in up-to-date citations. Positive changes have occurred in the quality of manuscripts accepted and cited, and also in adhering to other high standards of scholarly publishing.

But Cline found a weak core of productive authors: only 17 out of 4,000 cited authors appeared often enough to be considered an "author core." Of those, three of the most cited were also leading contributors to *C&RL*. Six who contributed ten or more articles during the forty-year period include the familiar names of Robert Downs, Keyes Metcalf, Robert Muller, Ralph Ellsworth, Ralph Shaw, and Maurice Tauber. Also, though there was increasing collaborative authorship (a notable factor in science publishing) in the seventies, the vast majority of articles during the period had no coauthors.

Other ACRL Series

Two other series came into being in the fifties.

The first was ACRL Monographs, designed, as Maurice Taubor had suggested, for papers either too long for *C&RL* or too limited in interest for the journal. The first monograph (1952), a photo offset item that sold at $.35 was Joe W. Kraus "William Beer and the New Orleans Libraries, 1891–1927." Over the years the monograph editorial board, while highly selective in the titles chosen (only forty-five have appeared in thirty-six years), did include a number of collections of essays. Therefore, in the early seventies, the editorial board decided to change the title to ACRL Publications in Librarianship. While the series is ecletic, most of the titles have been well received by reviewers.

The second series, initiated under Lawrence S. Thompson's editorship, was the ACRL Microcard Series. Chiefly a collection of master's theses and papers from library schools, the microcard series lasted from 1953 to 1969, and served, according to Charles Hale, "as an outlet for aspiring young college librarians."

In 1980 the College Libraries Section began a new series called Clip Notes (College Library Information Packets), containing "data and sample documents from academic libraries to assist librarians

in establishing or refining services and operations." Ten have now appeared. Like other ACRL series titles, CLIP Notes has been highly successful.

Another major contribution ACRL has made to academic library advancement is the publication of library statistics. Non-Association of Research Libraries university statistics have been published every other year since 1978. ACRL has also published HEGIS data collected by the federal government in 1984 and 1986. The Association also collected and published statistics of some colleges and universities in an out-of-series mode in 1984 and 1986. The latter series will reportedly not be continued. In the decline of federal government publication of library statistics, ACRL's provision of accurate comparative statistical data has been welcome.

Choice *and* Books for College Libraries

Perhaps no publications have served a more useful function than *Choice* and *Books for College Libraries*. By the mid-sixties, when the Great Society programs were just beginning, ACRL had already been at work for five years on a review journal to help college librarians and faculty in their selection of the best books for college libraries. Access to a high quality faculty who could assist in the reviewing led to *Choice*'s location in Middletown, Connecticut, near the Wesleyan University campus.

Thanks to a grant from the Council on Library Resources, the first issue of *Choice: Books for College Libraries*, appeared in March 1964. Under the editorship of Richard Gardner, *Choice* quickly earned a place of importance among the book reviewing media. Drawing upon the expertise of faculty for subject reviews and librarians for reference reviews, the magazine focused attention on authoritative evaluation of new titles for the expanding enrollments in colleges and universities. A recent article indicated that *Choice* reviewed more books per year (about 6,600) than any other publication. Especially popular was the spinoff *Choice Opening Day Collection*, a list of about 1,800 titles regarded by the editors of *Choice* as essential in any new college library.

Soon after *Choice* began publication, ALA published a major bibliographical tool, *Books for College Libraries (BCL)*. The current reviews of academic books published in *Choice* was foreseen as a complementary, supplemental service to a basic booklist. There had long been a desire for a successor to the Shaw and Mohrhardt lists. The establishment of new campuses in the University of California system had led to compilation of a basic list of titles under the editorship of Melvin J. Voigt and Joseph H. Treyz. This list of 53,000 titles became the basis for the first edition of *BCL*, published in 1967. ACRL and ALA Publishing collaborated on the next two editions, 1975 and 1988. The latest edition, with understandable hyperbole, is advertised as "the most authoritative academic library collection development and evaluation tool available today." In a six-volume format, as well as online and on magnetic tape, *BCL3* will likely be as popular and useful as its predecessors.

In this way ACRL has fulfilled one of its major purposes.

STANDARDS AND GUIDELINES

Important for academic librarians over the years has been the development of standards for college library collections and standards and guidelines for library personnel. Not surprisingly, standards and guidelines remain a major priority for ACRL's membership.

ACRL standards and guidelines have had a strong impact on higher education, despite the fact that regional accrediting agencies have not been willing to adopt the ACRL standards as their own. Nonetheless, accreditation visiting teams often take note of how a college has used such documents. Moreover, a number of higher education boards used the earlier "Standards for College Libraries," (1959) as a measuring device for improving their state-supported college libraries, just as they have used the 1975 standards, and no doubt will use the 1986 revision, for the same purpose. Board staffs routinely refer to the ACRL standards as the "ALA Stan-

dards," which may deny ACRL the credit but is technically correct since ALA delegates to its divisions responsibility for standards in their individual areas of expertise. The 1975 Standards for College Libraries broadened evaluation to include staff and space as well as collections, and have had a salutary effect in encouraging states with weaker college libraries to upgrade their library resources and services.

The College Library Standards apply to those four-year colleges and universities with only modest work at the graduate level. There are also standards and guidelines for two-year colleges and for universities.

Although measuring the impact may be difficult, this author believes that both the standards and the various guidelines have resulted in significant progress for small colleges and medium-sized universities, but probably have had less success in large universities.

"The battle to secure a vital role for the library in the teaching and research process is never ending."

The standards and guidelines most difficult to develop and maintain have been those involving personnel. The long battle of academic librarians for faculty/academic status has, at best, been only moderately successful. The debate over faculty status in the fifties between Robert B. Downs, a firm believer, and some other university librarians (at best, skeptical), resulted in a collection of essays published as ACRL monograph no. 22, *The Status of American College and University Librarians*, in 1958. ACRL adopted the Downs approach of full faculty status as the ideal. However, convincing academic administrators to adopt even the halfway house of academic status was hard fought, while full faculty status with rank and titles has not been achieved in most research universities. Moreover, there has clearly been some retrogression in the late seventies and early eighties.

In 1975 ACRL published *Faculty Status for Academic Libraries*, a collection of policy statements and articles in defense of faculty status. A new edition, *Academic Status: Statements and Resources*, has just appeared in 1988. In the current climate of higher education one can predict that the battle for academic librarians to maintain their status and position on campus will continue. Unfortunately, their colleagues, especially administrative colleagues (sometimes even library directors), are often their worst enemies. As the above paragraphs indicate, the battle to secure a vital role for the library in the teaching and research process is never ending.

CONFERENCES AND AWARDS

Over the fifty-year period, the ACRL presentations at ALA conferences have attracted increasing numbers of registrants. In recent years the ACRL President's Program has suffered from the same problem of all similar organizations: how does one plan a program on a substantive topic that embraces everyone, from the neophyte from library school to the sophisticated and experienced professional? The answer is "with difficulty." The result has been to focus more attention on the program of ACRL's fourteen sections, but even there the large numbers can present a problem. Section programs generally result in good attendance because of their more specific topics. To communicate effectively with members, all except two sections have now begun newsletters and the other two are giving consideration to some form of publication.

Since the Rare Books and Manuscripts Section's preconference programs began in 1958, the unit has attracted such interest that it has had to limit attendance. RBMS conference papers and symposia have often been published, adding significantly to the literature in this important area. Recognizing the growing importance of its Rare Books and Manuscripts Section in 1987, ACRL began publishing a new semiannual serial, *Rare Books and Manuscripts Librarianship*.

Preconference continuing education courses are now a regular part of ACRL's

programs at ALA, as they are for a number of other ALA divisions. They have grown in popularity, as more and more members recognize their need for updating skills in the bibliographic instruction, management, and technology areas.

ACRL was the first division to conduct a national conference apart from the ALA conferences. The Boston conference, in 1978, was designed for presentation and discussion of research and professional papers of high quality and *no* business sessions. With an attendance of over 2,600, the 1978 conference exceeded expectations. Subsequent conferences have been held in Minneapolis (1981), Seattle (1984), and Baltimore (1986). By all accounts the conferences have succeeded in presenting current issues and research results well, though research papers have been fewer than professional papers.

At the fortieth anniversary conference in 1978, ACRL, with support from the Baker & Taylor Company, presented its first annual ACRL Academic or Research Librarian of the Year Award to two giants in the profession: Robert B. Downs and Keyes D. Metcalf. Two other pioneers, Henriette D. Avram and Frederick G. Kilgour, shared this honor in 1979, but the following years have seen the award made to only one person.

In 1921 friends of Eunice Rockwood Oberly established a memorial award to honor the compiler of the best bibliography in the field of agriculture. ACRL now administers this biennial award, which technically might be called ACRL's oldest. However, the Academic or Research Librarian of the Year was ACRL's first major award.

RECENT DEVELOPMENTS: PLANNING

In 1982 ACRL established an Academic and Research Libraries Personnel Study Group to assess the division's current personnel programs and priorities. This group commissioned Allen B. Veaner to prepare a paper focusing on "working librarians, not chief administrators," in light of changes taking place in the academic libraries' environment. Veaner's paper, "1985 to 1995: The Next Decade in Academic Librarianship," was published in the May and July 1985 issues of *C&RL*, with comments by four librarians.[20] His observations on the types of knowledge, skills, abilities, and attitudes which academic librarians will need during the decade have led to considerable discussion, especially among library educators, and have contributed to ACRL's planning process.

Strategic planning the current buzzword in academia and the corporate world, has had its impact on ACRL. Planning for the decade began in 1981 when ACRL appointed an Ad Hoc Committee on an Activity Model for 1990.[21] Soon thereafter ACRL mission, goals, and objectives were adopted; afterwards an ACRL Strategic Planning Task Force was appointed to develop a strategic plan.

At the 1986 ALA Conference, the task force presented the results of its work to the ACRL Board of Directors, which adopted it. The plan's basis came from top priorities identified by the ACRL membership: publications, continuing education, standards and guidelines, alliance with other professional and scholarly associations, and chapters.[22]

The introductory mission statement reads well in the light of ACRL's history: "The mission of the Association of College and Research Libraries (ACRL) is to foster the profession of academic and research libraries to serve effectively the library and information needs of current and potential users."

Major goals for carrying out the plan are

1. To contribute to the total professional development of academic and research librarians,
2. To enhance the capability of academic and research libraries to serve the needs of users,
3. To promote and speak for the interests of academic and research librarianship, and
4. To promote study, research and publication relevant to academic and research librarianship.

(*C&RL* News, January 1987).

One reads this summary report with a keen sense of appreciation for how well the task force accomplished its work. Not only has the task force outlined subgoals and strategies in clearly understood prose, but they have also analyzed the As-

sociation's strengths and external environment in a commendable way. It is easy to concur with their own assessment, "We now have a clear sense of our mission, a strong set of goals for the next five years, specific objectives, and strategies for meeting them."[23] The ACRL Board has also initiated procedures to review the plan annually.

Another heartening aspect of ACRL's recent activities is its leadership in ALA divisional planning. ACRL, with support from the ALA Goals Award, managed the first divisional leadership enhancement program in 1984. The association has continued to work closely with other divisions in hammering out a new operating agreement with ALA. The strategic plan points out the significance of ACRL's position within ALA "not only in the symbolic recognition of the importance of one association for all types of libraries and library activities, but also in dollars. . . ." The willingness to improve relationships and to recognize those common goals of all librarians as well as carry out goals specific to types of libraries and library activities augurs well for ACRL's future.

"ACRL has led the way in divisional national conferences, in continuing education and in noteworthy publications."

ACRL TODAY: CELEBRATION

The facts are clear. ACRL on its fiftieth anniversary is far and away the largest, the most effective, and most prosperous of the ALA divisions. Representing almost one-fourth of the total ALA membership, ACRL has led the way in divisional national conferences, in continuing education, and in noteworthy publications. Among the *separate* library/information associations in the country, only the Special Libraries Association has a larger membership, by a thousand or so members. A 1983 *ALA Yearbook* article noted that ACRL's membership placed it as the fifth largest library association in the world!

Organizationally, the ACRL of today reminds one of the ALA itself. ACRL is a complex organization with a strong programmatic thrust. There are now 14 sections, all with vigorous and active programs; 39 chapters; 17 discussion groups; 49 ACRL level committees plus numerous section and discussion group committees; an active publishing program that would do justice to any major professional association; and a continuing education program both at ALA conferences, among chapters, and in grant-funded conferences for improving the quality of humanities programs in libraries.

ACRL has a sound budget plan and a firm financial base. In 1988–89 there will be a headquarters staff of about ten FTE, and a general budget of $1.1 million. At Middletown, Connecticut, *Choice* will have a staff of twenty and a budget of $1.4 million. Reserve funds for major projects like new editions of the *BCL* are approximately half a million dollars.

With a membership of 9,044 personal and 1,126 organizational members (as of August 31, 1988), ACRL is in a strong position to celebrate the accomplishments of its first fifty years.

ACRL: ANTICIPATION

From the above recital, one can certainly conclude that ACRL members have a firm foundation for "Building on the First Century." The fifth national conference in Cincinnati is an appropriate place to launch ACRL's next 100 years, as cochair Martha Bowman has noted. Looking at the current and proposed ACRL programs one would be hard put to argue that the division is precluded from doing anything it wants to do. The battle for autonomy in its own programs, with its own staff, budgets, and conferences, is over. In the unlikely event of a major challenge, any future ALA Executive Board would clearly be the loser and so would the library profession.

One can argue persuasively, as Charlie Brown, Blanche McCrum, Ralph Ellsworth, and other academic librarians did, that librarianship needs an umbrella organization for common concerns such as access to information, national legisla-

tion/funding, intellectual freedom, public awareness, and personnel resources (the ALA Priorities). One can also argue, as they did, that library/information science needs separate units to serve specialized interests.

ACRL contributes substantially to all of the ALA priorities in its specialized context, the academic library/information center. One need only mention the ACRL Standards for College Libraries recognized unofficially, if not officially, by accrediting bodies and various higher education boards. ACRL publications are regarded as a contribution to the scholarly community, whether one is talking about the prestigious book selection journal, *Choice*, or the ACRL Publications in Librarianship Series, or the various publications of the Rare Books and Manuscripts Section. *College & Research Libraries* has long been among the top research journals in the library/information science field.

ACRL could now become a separate association if it wished, but there is little incentive for it to do so. The future looks bright for the association's next hundred years. Charlie Brown, who used his political skills to secure a semiautonomous ACRL division under an umbrella ALA, and that small giant Blanche McCrum, whose "marching orders" sent her troops into the battle from which stems ACRL's current success, would both be proud.

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The definitive history of ACRL is yet to be written, but Charles Edward Hale's Indiana University dissertation, listed in the references, is a good starting place for basic data. Perhaps as ACRL looks ahead to its next hundred years, the board might consider encouraging research on a definitive history of the association.

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APPENDIX A. ACRL PRESIDENTS (BEGINNING 1938)*

1938–1939	Frank K. Walter	1948–1949	Benjamin E. Powell
1939–1940	Phineas L. Windsor	1949–1950	Wyllis E. Wright
1940–1941	Robert B. Downs	1950–1951	Charles M. Adams
1941–1942	Donald Coney	1951–1952	Ralph E. Ellsworth
1942–1943	Mabel L. Conat	1952–1953	Robert W. Severance
1943–1944	Charles B. Shaw	1953–1954	Harriet D. MacPherson
1944–1945	Winifred Ver Nooy	1954–1955	Guy R. Lyle
1945–1946	Blanche Prichard McCrum	1955–1956	Robert Vosper
1946–1947	Errett Weir McDiarmid	1956–1957	Robert W. Orr
1947–1948	William H. Carlson	1957–1958	Eileen Thorton

*Formerly College Reference Section. Name changed by vote of section, June 1938. Approved by ALA Council, Dec. 1938.

1958–1959	Lewis C. Branscomb
1959–1960	Wyman W. Parker
1960–1961	Edmon Low
1961–1962	Ralph E. Ellsworth
1962–1963	Katherine M. Stokes
1963–1964	Neal R. Harlow
1964–1965	Archie L. McNeal
1965–1966	Helen Margaret Brown
1966–1967	Ralph E. McCoy
1967–1968	James Humphrey III
1968–1969	David Kaser
1969–1970	Philip J. McNiff
1970–1971	Anne C. Edmonds
1971–1972	Joseph Reason
1972–1973	Russell Shank
1973–1974	Norman E. Tanis
1974–1975	H. William Axford
1975–1976	Louise Giles
1976–1977	Connie R. Dunlap
1977–1978	Eldred R. Smith
1978–1979	Evan I. Farber
1979–1980	Le Moyne W. Anderson
1980–1981	Millicent D. Abell
1981–1982	David C. Weber
1982–1983	Carla J. Stoffle
1983–1984	Joyce Ball
1984–1985	Sharon J. Rogers
1985–1986	Sharon Anne Hogan
1986–1987	Hannelore Rader
1987–1988	Joanne Euster
1988–1989	Joseph A. Boisse

APPENDIX B. ACRL EXECUTIVE DIRECTORS

1947–1949	N. Orwin Rush
1949–1956	Arthur T. Hamlin
1957–1961	Richard B. Harwell
1961–1962	Mark M. Gormley
1962–1963	Joseph H. Reason
1963–1968	George M. Bailey
1968–1972	J. Donald Thomas
1972–1977	Beverly P. Lynch
1977–1984	Julie A.C. Virgo
1984–	JoAn S. Segal

APPENDIX C. ACRL'S FOURTEEN SECTIONS

Anthropology and Sociology Section (ANSS)
Art Section (ARTS)
Asian and African Section (AAS)
Bilbiographic Instruction Section (BIS)
College Libraries Section (CLS)
Community and Junior College Libraries Section (CJCLS)
Education and Behavioral Sciences Section (EBSS)
Law and Political Science Section (LPSS)
Rare Books and Manuscripts Section (RBMS)
Science and Technology Section (STS)
Slavic and East European Section (SEES)
University Libraries Section (ULS)
Western European Specialists Section (WESS)
Women's Studies Section (WSS)

50th Anniversary Feature—

The Unintended Revolution in Academic Libraries: 1939 to 1989 and Beyond

Barbara B. Moran

In 1989, the Association of College and Research Libraries (ACRL) celebrates its fiftieth anniversary. The years since its founding have been a period of great change and progress in academic librarianship. Academic libraries have evolved from relatively small, self-sufficient institutions to large, multifaceted organizations electronically interconnected and linked in ways not yet envisioned fifty years ago. The librarians who work in these institutions, although sharing many of the same attitudes and values of their predecessors, are called upon to have knowledge of processes and to provide services unforeseen in 1939. Academic librarianship in the United States has changed more rapidly and radically during the past fifty years than it had during its prior 300-year history.

This paper will examine some of these changes and attempt to chart the course of academic librarianship from 1939 to the present. To do justice to this history, far more space would be needed than is provided here. What follows is a much compressed and highly selective look at the topic, but it is hoped that the account will be comprehensive enough to permit the identification of the most important trends and influences and to isolate some useful generalizations.

Tracing the development of academic librarianship results in two seemingly contradictory impressions. On one hand there are fundamental changes: Libraries have begun to make the transition from manual to electronic systems, and many central components, including collections, organization, personnel, and services, have been modified. The libraries of today are very different institutions from those of fifty years ago. On the other hand there are great similarities, so that an old adage seems to be applicable: the more things change the more they stay the same. Many contemporary issues and concerns were articulated and shared by academic librarians working in the field fifty years ago. More discouragingly, many of the problems that seemed intractable in the late 1930s have indeed proven to be unyielding and are yet to be resolved. The first issues of *C&RL* contained articles on topics such as the appropriateness of the Ph.D. and the advisability of faculty status for academic librarians, the necessity for research by academic librarians, the problem of low salaries for librarians in relation to faculty, the percentage of the institutional budget that should be devoted to libraries, and the advantages and disadvantages of library centralization.

Barbara B. Moran is Associate Professor, School of Information and Library Science, University of North Carolina, Chapel Hill, North Carolina 27599.

These topics are still on the agenda.

The following account focuses largely on the changes in librarianship but also examines some of the similarities that indicate, perhaps better than anything else, both the strengths of academic libraries and the weaknesses where improvement and progress still need to be made. In closing, this paper turns briefly from the past to the future: What lies ahead for the academic librarian in the next half century, and what should librarians be doing now to prepare for that future?

THE ACADEMIC LIBRARY IN 1939

Many present-day librarians can only dimly imagine an academic library of the late 1930s. In what type of library were the founders of ACRL likely to have worked? According to one librarian who worked in such a library,

> The year 1938 was back in the era of typewriters and adding machines (both non-electric), of duplicate hand-written or typed book cards (one filed under call number and one under borrower's name), of typing short-form original cataloging if LC cards were not available, when bill in duplicate for book orders was sufficient. Bibliographical resources of this period were also limited. Of the great national library catalogs in book form only that of the Bibliotheque Nationale, completed to the letter "R", offered much assistance in searching. The new edition of the British Museum *General Catalogue of Printed Books* had progressed only into the "B's," and there was no general record of Library of Congress's vast holdings except the depository catalogs or proof sheets found only in large libraries.[1]

Although there were exceptions, the typical academic library in the years before World War II had a small collection and a small staff. The usual educational preparation for librarians was a fifth-year bachelor's degree (B.L.S.) from a library science program, and librarians carried out many tasks that were essentially clerical in nature. The pay was low. There was rarely faculty status for any academic librarian below the administrative level. Some reference service was probably provided, but little effort was put into teaching students about the use of the collections, especially on a formal basis. Book selection was commonly done by interested faculty, not librarians. The acquisition budget was small, and most major collections were shaped by gifts and by development techniques that emphasized curricular needs and serious, scholarly material. The collection was composed almost entirely of books and journals; only a few libraries held any type of audiovisual materials or microfilm. Librarians had little input into decisions made by administrators, and the head librarian might be a recruit from the teaching faculty. Only a few cooperative ventures were in existence, and most librarians, operating in relative isolation, had no formal relationships with other libraries or with librarians outside of their own institutions.

Academic libraries of the late 1930s were not only very different from contemporary libraries but also from the libraries that had preceded them. If it is accepted that the fundamental purpose of the academic library is to support the educational mission of its parent institution, then, as institutions of higher education change, so will the libraries associated with them. There had been significant changes in U.S. higher education since the founding of Harvard University in 1636. The most important of these had resulted from the impact of the German research university and the land grant acts in the latter part of the nineteenth century. For the most part, the modifications to higher education had been incremental, and both academic institutions and libraries had had sufficient time to alter and adapt in response to them. In 1939, however, the academic library, along with its parent institution, was standing at the brink of the greatest period of change ever encountered and the changes would occur so swiftly and unrelentingly that all of higher education would have to struggle to keep abreast of them.

" 'The changes that crumbled the ivory tower of 1940 were not only unforeseen and unplanned but were largely unintended and unwanted.' "

THE REVOLUTION IN HIGHER EDUCATION

Thomas Bonner, in a recent article in *Change* magazine, describes the "unin-

tended'' revolution in American higher education since 1940—a revolution resulting in a contemporary system of higher education that he argues is as different from that of 1940 as our present-day colleges and universities are from those in the developing nations of Asia and Africa.[2] And, as Bonner points out, ''The changes that crumbled the ivory tower of 1940 were not only unforeseen and unplanned but were largely unintended and unwanted.''[3] In his view, higher education did not control the developments that resulted in these changes but instead was carried along by swift social and demographic currents. Bonner lists the demands of World War II, impact of the returning veterans, economic growth, international crises, the baby boom, political strife, Vietnam, campus revolts, economic decline, and changing public support as the most important developments that have changed higher education during the past five decades. To this list must be added the growth of electronic technology, which has produced broad-based changes within institutions of higher education, especially in the last ten years.

If only one word could be chosen to describe the changes in both higher education and libraries, it would have to be *growth*. In academic libraries the growth—in size of collections and staff, in number of services provided and patrons served—mirrors the growth that took place in American higher education during the same time period.

Only about half of today's colleges and universities existed in 1940, and they served a student population of fewer than 1.5 million. These students were predominantly male and white, drawn almost exclusively from upper- and middle-class families. The federal government played an insignificant role in funding; the support of higher education just prior to World War II came almost entirely from a combination of student tuition and state government expenditures. The total national expenditure for higher education amounted to only 700 million dollars in 1940 compared to the 95 billion dollars spent in 1985.[4]

Spurred by the GI bill, the expansion in American higher education began after World War II, but grew most rapidly in the sixties and seventies. During this period new universities were established, state colleges became universities, normal schools and teachers' colleges expanded into state colleges or universities, and hundreds of community and technical colleges were opened. By 1950 there were 2,300,000 students enrolled in American colleges and universities; by 1960, 3,600,000; by 1970, 8,650,000; and by 1980, 12,100,000.[5] Despite the much-discussed ''baby bust,'' enrollments have not dropped as feared; standing today at approximately 12,400,000; the enrollment figure is kept up primarily by the expanded number of nontraditional students.[6]

The new students who flocked to higher education were the impetus for new courses, programs, schools, and degrees. The liberal arts, the major of choice for almost all students fifty years ago, is now selected by only a third of them. In the 1980s nearly 60 percent of all college students are pursuing degrees in a wide range of professional and occupational studies. Students of today are a much more heterogeneous group than those enrolled in 1939. There are now more female than male students in institutions of higher learning. Blacks and most other minorities, although still underrepresented in relationship to their numbers in the population as a whole, have made tremendous strides since 1939, when many institutions of higher education were still closed to them. Despite cuts in federal aid for students during the last decade, there has been a broadening of opportunities to earn a degree—no longer is a college education the prerogative of children from upper- and middle-class families only. Although higher education in the U.S. still does not provide universal access, it serves a higher percentage of the college-age population than does any other country.

Higher education is no longer the exclusive preserve of the eighteen- to twenty-two-year-old. Perhaps the most striking indication of this change is the fact that, among more than twelve million college students, only about two million are full-time, living on campus, and aged eighteen to twenty-two.[7] Older students, many attending college on a part-time basis, now

constitute an important segment of the enrollment on most campuses.

The growth and expansion of U.S. higher education over the past half century has made a dramatic impact upon academic libraries. Although today's libraries are larger according to almost any variable that might be measured, growth alone is not an adequate explanation of the changes that have occurred since 1939. Two other factors have been driving forces behind the changes, especially those of the past twenty years: the greater acceptance by librarians of interinstitutional cooperation and the adoption of new technologies.

Over the past fifty years, academic libraries have come to realize that interinstitutional cooperation is essential to meeting the needs of their users. The move to a more cooperative stance has been necessitated by economic circumstances and has been facilitated by the development of online data that can more easily be shared among institutions. Today's libraries are relying on networking and resource sharing as an integral part of their activities.

During the past twenty years, the changes brought about by technology have been so extensive that it is difficult to assess their total impact. Librarians adopted technology with great enthusiasm and, despite the fact that they have sometimes been viewed as a conservative group, were pioneers in the use of computer technology. The library was usually the first academic unit on campus to computerize. The match between automation and libraries was a natural one because librarians usually spend much more time processing data about their collections than they do working with the collection itself. Growth in the size of the collection and demand for services were added incentives for librarians to explore the ways in which automation could assist in performing routine library operations. Today, even the smallest academic libraries have been affected by the technological changes that have swept through librarianship.

The causes of the transformation in academic librarianship are many and varied. The following section focuses primarily on the three factors discussed above—growth, cooperation, and technology—and examines their impact on the critical components of collections, budgets, organization, buildings, staff, and services.

LIBRARY COLLECTIONS

In 1939 the median size of the book collections in U.S. universities was 329,706; in small colleges, 62,285; and in teachers' colleges, 25,341.[8] Today the average collection in all types of libraries has increased dramatically. For just one example, the median for ARL university libraries is now more than two million volumes.[9] During the post–World War II era, many distinguished collections were amassed. Collection building and growth were among the major concerns of academic librarians; libraries were ranked by collection size, and bigger was always better.

Growing both in numbers and diversity, academic library collections now routinely consist not only of books and journals but of microforms, audiovisual materials in many formats, and increasing numbers of machine-readable databases, online texts, and software programs. The broad spectrum of courses being offered in today's institutions of higher education has led to the collecting of library materials in areas that would have been unheard of previously.

No account of the past fifty years would be complete without a mention of the information "explosion" and its impact upon academic libraries. Beginning after World War II, the amount of published material skyrocketed as fields of study grew and subdivided, resulting in the production of more and more new and specialized journals. The numbers of monographs being published both here and abroad also ballooned, increasing 14 percent a year during the sixties and 2.8 percent a year during the seventies.[10]

As acquisitions librarians know all too well, the cost of publications escalated along with the amount of material being published. The largest cost increases began to occur in the 1970s, at a time when libraries' materials budgets were beginning to stagnate; the increases resulted in a severe erosion of purchasing power. Librarians reluctantly acknowledged that

their previous levels of collection building could no longer be maintained and that the days of the comprehensive, self-contained collection were over. Perhaps one of the greatest changes of the past fifty years is the realization that, because of the rising level of scholarly output, no library, however large, can be self-sufficient but instead must be part of a system in which users are linked to needed resources in other collections.

The resource sharing that is such a clear hallmark of the academic library in the 1980s was spurred by the hard realities of increased publication and decreased budgets but is not a new development. Although there were some examples prior to 1939, the most notable cooperative efforts have been attempted throughout the past fifty years. Many geographically close libraries began cooperative acquisition plans during the 1930s. The New England Deposit Library opened in 1942, the Universal Serial and Book Exchange and the Farmington Plan began in 1948, and the Midwest Interlibrary Center (later to become the Center for Research Libraries) was established in 1949.[11] Interlibrary loan existed before 1939; but with new tools that permit both efficient verification and ordering of items, ILL has become an integral part of library cooperation in the past few decades.

Libraries have gradually moved away from collection building and growth to a new emphasis on providing access to information from many sources. Academic librarians of the future must remember, however, that access depends on ownership by at least one party. On the whole, today's libraries can provide access to material because they own the material collectively. Since self-sufficiency is no longer possible, greater attention will need to be paid to coordinated, cooperative collection development such as that being attempted by the Research Libraries Group's *Conspectus*.[12]

During the past fifty years, academic librarians have also begun to face up to the physical deterioration of large parts of the collections. Prior to this time, preservation was a neglected activity, and today's collections reflect that neglect.[13] The problem of brittle books has been compounded by the preservation problems associated with some of the newer media such as film, videotape, and magnetic tape, which are just as fragile and apt to deteriorate as pulp paper. Despite advances in preservation techniques, academic librarians are far from having a cure for this malady, and the preservation problem is one that must wait for solution in the years ahead.

Although some new preservation techniques and storage devices such as optical disks hold promise, funding, as usual, provides the major obstacle. At a time when libraries need to find funding sources in order to invest in technology, they are faced with the concurrent need to invest in preservation to save their collections. Because of the size of the problem and the overwhelming cost required to solve it, cooperative action will be needed. A coalition of librarians, scholars, academic administrators, publishers, and all who use the records of civilization is needed to forge an alliance and seek a common solution to this problem if tomorrow's scholars are to have access to the collections built with great care and cost in the past.

LIBRARY BUDGETS

The actual increases in academic libraries' budgets are less dramatic if they are adjusted to reflect the inflation of the dollar that has occurred. In 1938 institutions of higher education spent $17,588,000 on libraries;[14] in 1985, the last year for which figures are available, they spent $2,361,000,000.[15] The 1960s were a period of especially great affluence for academic libraries, but this prosperity was followed by the stringent budgets of the seventies and eighties. And, even with an increased library budget, there was no way to keep up with the growth in publications.

One of the reasons that technology was embraced so eagerly was the hope that the use of automation would reduce the day-to-day costs of operation. Many library directors justified the heavy capital expenditures necessary for computer-based systems by promising lower operating costs in the future. These trade-offs—capital investments for lower operating

costs—almost never succeeded. As Richard De Gennaro wrote,

> When we first started to use computers in libraries 15 years ago, we thought we would save money, but we soon learned there would be no net savings from automation. Then we thought that automation would at least "reduce the rate of rise of library costs," but even this is proving to be illusory as we demand and receive an ever increasing variety of new and expensive services from our network and local systems.[16]

By automating, the library multiplied its capabilities and raised the expectation level of library staff and user alike. Thus, as library services became more efficient and useful, demand for them increased. While the unit cost of any given service might decline, the total cost of satisfying the increased demand would go up.

One of the constants in academic librarianship over the past fifty years has been the portion of the parent institution's budget that has been devoted to libraries. Before the 1960s, academic libraries received, on the average, about 3.1 percent of the total institutional budget. During the late sixties and early seventies, the figure rose to about 4 percent but, after 1976, drifted down again.[17] The percentage varies from institution to institution, with large universities devoting a smaller percent of their budgets to libraries than small colleges. The true significance of the pattern is what it reveals about institutional budgeting for libraries. It seems clear that library funding is not based on the library's need because, if it were, the percentage would fluctuate from year to year. Academic library costs have not been determined by need but by available revenue. Libraries have not been successful in providing a rationale for the funds they need and seeing those needs met by their parent institutions. This invariant pattern does not augur well for the future when libraries, more than ever, will require increased budgets to meet the demands of their expanding role in the use of technology.

If the percentage of the institutional budget has been constant, one of the most inconstant elements in library funding over the past fifty years has been federal funding. Although federal aid to libraries was almost nonexistent in 1939, it began to increase after World War II, reached a high point during the late 1960s, and then began a slow decline. One of the greatest factors supporting the growth of librarianship during 1945–70 was federal funding. The Higher Education Act of 1965 provided three library programs: Title IIA, funds for acquisition of books, periodicals, and other materials; Title IIB, library training and research demonstration programs; and Title IIC, a centralized cataloging and acquisition program under the direction of the Library of Congress. The Library Services and Construction Act and the Academic Facilities Act were also important pieces of legislation for academic libraries.[18]

Budgeting for technology has been one of the major difficulties since the 1960s. Traditionally, 60 percent of the library budget had been used for salaries, 30 percent for materials, and 10 percent for other expenses. The percentage used for "other" needed to be increased during the past few decades because this is the section of the budget used to finance automation. As a result, libraries had to cut back on the percentages for personnel and materials. Within the materials budget, they are now facing the problem of balancing the cost of new electronic sources against the cost of traditional library acquisitions. It would be reassuring to think that universities will increase the budgets of libraries sometime soon, but this does not appear to be likely in the near future. Too many competing claims exist.

As the new information technologies become more widespread, they will make students and faculty more productive, and there will be a need to shift funding from faculty to infrastructure. Both libraries and computing centers would benefit from this move,[19] but it will likely be resisted by many units on campus. In addition, librarians themselves will need to find ways to limit the need to provide services through both print and electronic means. The decisions to be made in these areas will not be easy ones.

ORGANIZATIONAL PATTERNS

The growth in the size of libraries has led to the adoption of different organizational patterns. In 1939, almost all college

and university libraries, regardless of size, were organized along departmental lines with all department heads reporting directly to the chief librarian. As libraries grew in size, the number of departments grew also so that the span of management became too broad to be workable, and this highly centralized organizational pattern needed to be modified. Various experiments at reorganization were attempted, but, by the early 1950s, the bifurcated organizational pattern with its division of functions into public and technical services had been widely accepted by most large academic libraries.[20] Since then, some libraries have produced modifications to this structure; for instance, in 1973 the library at Columbia University organized its activities into a services group, a resources group, and a technical support group. Nonetheless, the bifurcated structure is still the most common in large libraries while most smaller libraries continue to be organized departmentally. Although much has been written about the merger of technical service and public service departments in academic libraries, this type of reorganization is still more conjecture than reality.

As libraries grew in size and complexity, the number of middle managers proliferated. In addition to the traditional line managers, most large libraries now include a team of individuals who provide specialized managerial expertise in areas such as personnel, budgeting, planning, and automation.

The past fifty years has been a period when libraries have continued to grapple with the thorny issue of centralized versus decentralized services. Fifty years ago, Robert A. Miller argued the pros and cons of centralized and decentralized collections in areas such as accessibility, efficiency, interrelationship of subject field, and cost.[21] Today's library directors are still trying to arrive at a balance between the efficiency of centralized services and the greater convenience of decentralized services. At most institutions, the present trend has been to continue to centralize services as much as possible.

In a similar vein, academic librarianship has seen the waxing and now the waning of interest in undergraduate libraries. Harvard's Lamont Library was built in 1949, but the real proliferation of this type of library came in the 1960s and the early 1970s when the number of undergraduates on campus was expanding most rapidly. The interest in establishing new undergraduate libraries has dwindled in the past fifteen years because of cuts in library budgets, stable enrollments, and the assumption of many that separate libraries for undergraduates are unnecessary now that bibliographic instruction programs are available to make the main library more comprehensible to undergraduate users.

The future place of both undergraduate and branch libraries is not clear. Still to be factored in is the impact of the new technologies and the advent of new methods of document storage and retrieval. Many of the arguments in favor of centralization will disappear when materials can be shared electronically among libraries. Some writers predict that the library of the future will consist of small, decentralized units which will provide users with the convenient, individualized services they have always preferred.[22] The new technology will likely be a driving force in determining the organizational structure of the library of the future, but the shape of that library is still to be determined.

"Between 1967 and 1975, 647 academic library projects were completed in the U.S. at a cost of $1,900,000,000. Many of the projects were partially funded with federal money authorized under the Higher Education Facilities Act."

LIBRARY BUILDINGS

Indicative of the growth of higher education is the spurt in library building that went on during the middle of the period under consideration. With the infusion of federal money in the sixties and seventies, a large number of academic libraries were built. Between 1967 and 1975, 647 academic library projects were completed in the U.S. at a cost of $1,900,000,000. Many

of the projects were partially funded with federal money authorized under the Higher Education Facilities Act.[23] Many of the old main libraries that were replaced were refurbished and used for other purposes such as undergraduate libraries or classroom buildings.

Not only have library buildings grown in sheer numbers and in size, but the change in architectural design over the past fifty years has seen a shift from the "monumental" library building, still the most common type in the 1930s, to a more functional style of library architecture. Edna Ruth Hanley's *College and University Library Buildings*, published in 1939, provides a good introduction to the style of architecture popular in academic libraries at that time.[24] The book presents photographs and floor plans of 42 college and university libraries that had been erected between 1922 and 1938, the most expensive of these libraries costing $1,200,000. The columns, cupolas, and towers associated with "old fashioned" library buildings are all well represented.

The architecture of the buildings built since 1939 has been very different from that of the earlier era. The older, fixed form buildings were replaced by buildings with functional flexibility which provided facilities for group discussion rooms, conference rooms, individual study carrels, and comfortable reading areas. The new buildings had good lighting and ventilation, air conditioning, open stack design, comfortable furniture, and adequate acoustical properties.[25]

During the past few years, the "flexibility" of some of these new buildings has been strained as librarians have attempted to accommodate the computer hardware, especially the terminals, being added in libraries. The need for space is critical as libraries are going through a transition period between online and manual systems. Libraries with online catalogs still need space for traditional card catalogs and reference departments are attempting to find room for CD-ROM terminals among the reference stacks. The clatter of the printer in public use areas is a new sound in most libraries, and librarians are struggling to find a way to accommodate harmoniously the old and new technologies of librarianship.

"When *C&RL* published its first annual statistics in 1941–42, the median number of full-time personnel in the largest academic libraries was thirty-seven."

STAFF

The size of the library staff has increased commensurately with the growth of the rest of the library. When *C&RL* published its first annual statistics in 1941–42, the median number of full-time personnel in the largest academic libraries was thirty-seven.[26] Today, each of those same libraries would have a full-time staff that numbers in the hundreds.[27] But to describe the changes in the personnel aspects of academic libraries as growth alone would obscure the truly significant advances made in this area.

In the past five decades, the tasks professional librarians perform have become more clearly differentiated from those performed by nonprofessionals, and, in many instances, tasks that had been done by professionals have been transferred to members of the support staff. As Allen Veaner has written, this displacement provides an illustration of technological imperative in that once technology is used to accomplish complex, routine mental work, that work is driven downward in the work hierarchy away from professional to support staff. The professional's work then expands to include new and more challenging tasks, and, as a result, librarians have acquired a more clearly defined professional responsibility.[28]

In terms of professional-level staff, the academic libraries of today are "leaner and meaner" organizations. As recently as 1950, the staff of most college and university libraries was composed of fifty to ninety percent professional librarians. In most contemporary libraries, the ratio is now one professional librarian to two support staff members, and in some large li-

braries, the proportion of professional librarians is still lower.

Professional librarians of today, taken as a group, are better educated than those of fifty years ago. Almost all of them have at least a master's degree, and a large number have, in addition, a second master's degree or a Ph.D. They are graduates of professional schools whose curricula are less practice-oriented and more research- and problem-oriented than they were fifty years ago.

Librarians not only enter the profession with a better education, but they strive to continue that advantage not only by recognizing the value of continuing education and staff development but also seeking out opportunities to avail themselves of further education. Without this willingness to continue to learn, librarians would have found their knowledge and skills had become outdated in the rapidly changing academic library field.

The past fifty years also have seen librarians assume tasks that were not considered totally within their sphere of competence in the late 1930s. Individuals trained as librarians, not bookloving faculty members, are found as directors, almost without exception. Librarians, not teaching faculty, now do the bulk of the book selection (although often with the advice of interested faculty), and collection development is considered to be the right of the library staff. Librarians now routinely engage in teaching, both within the library and without, by means of bibliographic instruction programs.

These changes have led to a greater professional maturity among academic librarians. Most of today's academic librarians have a clear view of their place and purpose within academe and recognize that they play a role of central importance in the instructional and scholarly life of the university. This greater professional maturity has been reflected in the growth of the number of professional journals, in the increase in research and publications, in interest in professional organizations, and in the establishment of policies and standards.

Academic librarians have also made tremendous strides in their quest for participation in library governance. In 1939 almost all libraries were organized in a traditional hierarchical structure, and the most common management style was authoritarian with the director making all decisions relating to the library. Although there are still a few authoritarian directors remaining, non-administrative librarians are now involved to some degree in decision making in almost every academic library. The committee system has been found to be an effective method of providing librarians' input. Although a few small libraries have adopted the faculty model of collegial governance, the sheer size of most academic libraries makes that model an inappropriate one. A few libraries have also experimented with matrix or project management organization patterns in an attempt to provide greater staff input and involvement, but on the whole, the academic library of today is still organized in a traditional, pyramidal fashion. The difference is that librarians have been successful in finding ways of providing opportunity for staff participation in decision making within the confines of the bureaucratic structure.

The now generally accepted premise that academic librarians should have input into decision making provides an interesting contrast to the still unresolved issue of what is the appropriate status for academic librarians. This is an issue that was being discussed fifty years ago (and before) and is still far from being resolved today. Miriam Maloy wrote in a 1939 *ALA Bulletin* article:

> [W]riters have pointed out the important function of the librarian as a teacher and his obligation to pursue higher studies and broaden his outlook by travel, just as regular faculty members are expected to do. These are good arguments for the inclusion of librarians in the academic ranks rather than the administrative ranks. . . . However, some groups of librarians have felt that more immediate advantage could be gained in their particular institutions by stressing and developing their unique status as librarians, raising their own standards, developing their own potentialities, and bringing to the attention of college authorities the educational and cultural requirements of the library profession.[29]

Maloy's words describe the situation in 1989 as well as they did fifty years previously. The quest for faculty status for academic librarians began well over 100 years ago,[30] but it began to become a central concern for librarians starting in the fifties and sixties. The concern about the most appropriate status for librarians has extended up to the present and is reflected in the fact that perhaps more has been written about this particular aspect of academic librarianship than about any other during the last 25 years.

The move toward faculty status was advanced by the decision of the American Association of University Professors (AAUP) to admit librarians as members in 1956. At the 1969 ALA Conference, ACRL approved a motion establishing as one of its chief goals, full faculty status for all academic librarians. ACRL, the Association of American Colleges, and AAUP drafted a joint statement on faculty status of college and university librarians urging the granting of faculty status to librarians as well as the same rights, privileges, and responsibilities of faculty members.[31] Although recent surveys have shown that nearly 80 percent of librarians report having faculty status,[32] it is clear that few librarians have full faculty status "with the same rights, privileges, and responsibilities."

In the past decade, a large number of academic librarians have begun to reconsider the issue, and some now feel that perhaps the quest for faculty status was misguided. It is their judgment that academic librarians have assumed the dual responsibilities of teaching faculty members and librarians to their own detriment. Despite the fact that faculty status still has its strong proponents, a growing number of individuals now advocate having librarians organize as a separate academic group to seek recognition and status as librarians. Under this status, it would be necessary for librarians to set strict standards for performance, education, and professional competence if they wished to earn the respect of their faculty colleagues, but at least librarians would be judged by criteria appropriate not to another profession but to their own.

The debate about the appropriate status which has consumed so much energy and effort during the past fifty years has yet to be resolved. Perhaps, the ultimate resolution will be the realization that there is no one "ideal" status for academic librarians and that the appropriate status can best be worked out on an institution-specific basis. In those institutions which have granted full faculty status to librarians including the released time and the institutional support needed for doing research, faculty status may indeed be a realistic option. In those other, more numerous institutions where faculty status has been granted in name only, librarians might do well to seek to be judged on criteria directly related to what they do in their own profession.

Here again, the impact of technology will be a significant factor. If libraries of the future are the decentralized units foreseen by some, where a "holistic" librarian with an advanced subject degree and knowledge of the research process works in close relationship with faculty and students in a specific discipline or field of study, the faculty status model might fit very well.

Some of the changes in the personnel patterns in academic libraries have been the result of the changes in personnel patterns within academe as a whole. The push of collective bargaining units into institutions of higher education beginning in the 1970s has resulted in the unionization of a large number of librarians, especially those in large public systems. Interest in better working conditions has led to increased attention being paid to the quality of the working life within libraries. Most libraries now have instituted formal grievance policies which can be used to redress employee complaints.

Academic libraries have also mirrored the improving conditions for women and minorities within the society as a whole. Interestingly, women had an easier time securing positions in library administration in the late 1930s than they did in the sixties and seventies. In 1930, only 9 percent of all librarians were male; by 1940, the percentage of males in libraries had increased to only 10 percent.[33] Males were

encouraged to enter the field of academic librarianship after World War II. The percentage of males increased until now it is estimated that approximately 20 percent of all librarians are males, with a higher percentage of males working in academic libraries than in any other type of library. The most recent statistics show that approximately 35 percent of all academic librarians are male.[34] As males entered academic librarianship, females were displaced from administrative positions, especially in the large, research university libraries, where their representation in administration had always been low. In 1930, in the 74 institutions of higher education with enrollments of more than 2,000, there were fifty-five men and nineteen women serving as chief librarians. As women retired, men were hired to take their places. By 1967, 70 of these libraries were headed by men and only 4 by women—not one of the fifty largest academic libraries was directed by a woman. In the late 1960s, even the women's colleges that had traditionally employed female head librarians were employing males.[35] In the 1970s, federal Equal Employment Opportunity legislation was made applicable to institutions of higher education, and conditions for women improved. Today, 28 of the 103 ARL university libraries have female directors, and there is a higher percentage of females at the middle management level than ever before. Academic libraries, like other institutions in our society, still need to make progress in the area of equal opportunity for women, but they have left behind, forever it is hoped, a time when an advertisement like the following could appear: "Stymied in your present job? Want to broaden your experience? Like to work in brand-new building under ideal conditions? Insist on liberal fringe benefits? Want faculty status? If so, and you are male, you may be interested."[36]

In terms of equal opportunity for racial minorities, academic libraries have also made progress. In 1939, an article in the *ALA Bulletin* reported the problems associated with library education for blacks.[37] At that time Hampton Institute, the only library school for blacks, was on the verge of closing. The article urged the establishment of another library school to prepare black librarians. The problem today lies not in availability of education but in how to get more minority students to enroll. Despite the efforts of many academic libraries to increase the number of minorities on their staffs, the profession has not been successful in attracting minorities to the field. Librarianship has to compete with other more lucrative professions, and is, too often, coming in second. The latest statistics show that almost 90 percent of all academic librarians are white; 4.5 percent, Asian/Pacific Islander; 4.1 percent, black; 1.5 percent, Hispanic; and .02 percent, native American.[38] It seems obvious that libraries will not be able to compete on the basis of pay but must look for other ways to attract minority entrants. Some academic libraries and some library schools have instituted innovative scholarship and internship programs to attract minorities to the field. More efforts in this area need to be made if librarianship is committed to increasing the number of minorities in the profession in the future.

SERVICES

Not surprisingly, library services have changed along with the rest of librarianship. Technology has had an enormous impact on technical services. Automation was first used to make the work of librarians easier, especially the "record-keeping" work of librarianship including acquisitions and cataloging. Librarians developed their own local systems or bought turnkey systems to help with acquisitions and serial control. The growth of the bibliographic utilities, especially OCLC, during the seventies and eighties revolutionized cataloging and led to a restructuring of the catalog department in almost every academic library.

Because technology was first used in technical services and thus was invisible to the library user, many users were unaware of its heavy use in libraries during the sixties and seventies, even though much of the growth in collections and services during that period was made possible by its implementation. Today, especially in large libraries, things are very

different. Patrons themselves have become eager users of technology such as CD-ROM discs and online public access catalogs.

Public services in libraries have increased both in number and in comprehensiveness over the past fifty years. Circulation was the first service provided in academic libraries, and, by the late 1800s, some academic libraries were providing reference service. As Samuel Rothstein has shown, however, this service was provided on a minimal basis until the 1940s.[39] Throughout the last fifty years, academic librarians have increased the amount of specialized and in-depth assistance in the use of collections, not only in answering users' questions, but in preparing bibliographies and in providing telephone information services. Many libraries have employed subject specialists to provide reference service in specific areas.

In addition, two new services have been developed: bibliographic instruction, which has become an integral part of academic librarianship over the past twenty years, and online searching of bibliographic or natural-language databases.

The librarians of 1989, like those of 1939, have a strong commitment to service to users. This commitment to service may be needed even more in the near future as library users have greater opportunities to interact directly with library technology and need to be trained in its use. As C. Lee Jones has pointed out, "This era of technical innovation in libraries has become for patrons an age of discontinuity of library services as library practices they have grown accustomed to are rapidly replaced by new ones."[40] It will be the librarians of the present and the future who will need to refamiliarize patrons with the library.

As long as technology stayed in the backroom, librarians were not faced with this problem. Even when online searching became common, in most cases trained librarians performed the searching. It was not until the availability of online catalogs and CD-ROM discs that librarians found they had to spend an increasing amount of their time in the teaching of the new technologies. Reference librarians in departments which have just recently acquired CD-ROM discs frequently mention the way their time is being redistributed away from traditional reference service to the instruction of patrons in the use of the CD-ROM. These demands for new instruction and new services will only increase as librarians make more computerized information technology available to patrons. It is likely that in the near future librarians will be called on to help in new ways, for instance, assisting patrons with downloading information and constructing their own tailored databases. The possibilities in this area are limitless and will be constrained only by the amount of time librarians have available to be divided among competing demands.

QUO VADIS?

If growth, acceptance of cooperation, and the adoption of technology were the driving forces behind the changes in academic libraries over the past fifty years, what will be their impact in the future? It seems likely that the relative importance of these factors will not remain the same.

Growth, which was perhaps the strongest force for change over the past fifty years, will likely be the weakest in the future. This is because the great expansion in higher education that served as an impetus for the growth of libraries has plateaued and is likely entering a period of decline. Although it is impossible to predict exactly the number of students who will be going to college in the future, the best available estimates are that between now and 1996, enrollments may decline from 12.4 to 11 million students.[41] This decline will not affect all institutions equally; some types of institutions and some parts of the country will be more hard hit than others. Nonetheless, on the whole, most institutions of higher education are expecting a smaller number of students to enroll between now and 1996, and that decrease will affect libraries in many ways from budget freezes and cuts to the need for fewer seats in the reference room.

The increase in publication rate that led to the spurt in the size of library collections has leveled off, but straitened budgets and increasing costs, especially for foreign serials, mean that librarians will still not be

able to acquire a larger proportion of this output. With a shrinking enrollment and no increases seen in federal spending, there may be fewer new libraries built in the future. Librarians will need to continue to experiment with remote storage facilities and steady-state collections.

The cooperative efforts of libraries will likely increase and strengthen in the future. The move away from acquisitions to access will continue and be made even more necessary as costs for technology compete with funds for collection development. Many library users who would prefer to see their libraries continue to purchase the bulk of the scholarly material they need will likely resist this new emphasis on access. Nevertheless, it is inevitable that the collection development policies of even the largest academic libraries will respond to the economic realities. Librarians will accelerate "the trend away from each library being a self-contained unit, toward a system in which the library will be a service center, capable of linking users to national bibliographic files and distant collections," which was advocated by the National Enquiry into Scholarly Communication in 1979.[42] Advances in technology will make both the interinstitutional and the intrainstitutional sharing of resources less burdensome.

Technology will play the greatest role in transforming the library of the future. It is clear that the process of technological innovation in libraries (and in higher education) is an ongoing one. The library of today is in a process of transformation that has already produced great changes but which promises to produce a great many more in the future. It is important to remember that as much as technology has already changed libraries, the changes it has made are likely to be just the beginning. This is because technology is usually adopted in three stages and libraries are not even halfway through the process yet. This three-stage model of technological adoption was first described by O'Connell in 1969. In the first stage, technology is used to do the same things but to do those things more quickly. In the second stage, technology is used for new applications and to do new things. In stage three, technology is used in ways that create fundamental changes within organizations and societies.[43]

It is clear that at this point, most of the use of technology in libraries is still at stage one. Librarians have used computers to speed up cataloging, circulation, and acquisitions. Libraries began to enter stage two with technological advances such as online catalogs which have greater search capacities than traditional card catalogs and with database searching which permits searchers to search materials electronically in ways that were never possible using print sources.[44]

Stage three, the one that will lead to fundamental changes within a society and its institutions, has not yet made its appearance, but when it does, the academic library, like the rest of higher education, will undergo dramatic changes. At this time, the changes this stage will bring can only be dimly and imperfectly glimpsed. It is this new use of technology that will most strongly affect the shape of the library of the future.

THE LIBRARY OF THE FUTURE

Much has already been prophesied about the library of the future, but these seers share no common vision. Some see the library of the future as relatively similar to today's but with new technological "bells and whistles" to make it work more efficiently and effectively. On the other hand, there are those who have predicted the virtual demise of the library as users' information needs are satisfied entirely by electronic information available in homes or offices.

Foretelling the future is both difficult and risky. A perusal of library literature of the thirties and forties dealing with the future of academic libraries reveals that librarians of that time were not particularly prescient.[45] Although many authors foresaw the growth of libraries, none of them had an inkling of the impact of computer technology upon today's libraries. This is not surprising. Although the first computer was built just before World War II, general purpose computers were not common before 1960. But there is no reason to

think that today's librarians are going to be any more accurate in their visions.

Prophets are usually led astray by linear projection—they take today's trends and interpolate them into the future. The problem lies in the fact that the future is often not linear or deterministic. As John Naisbitt has written, "The gee-whiz futurists are always wrong because they believe technological innovation travels in a straight line. It doesn't. It weaves and bobs and lurches and sputters."[46]

What weaves, bobs, lurches, and sputters lie ahead for academic libraries in the next fifty years? It seems that the answer to this question depends on the larger question of what lies ahead for higher education in that same time period. Remember Bonner's description of the changes of the past fifty years as "not only unforeseen and unplanned, but . . . largely unintended and unwanted."[47] Will the changes of the next fifty years be planned and foreseen any better? It seems unlikely.

Higher education has learned the lesson about demographic planning. The students who will be entering the college classroom in the first decade of the twenty-first century have already been born. Both birth and enrollment rates are being closely watched by institutions of higher education. But demographic planning, despite its uncertainties, is the easiest part of planning for the future.

The biggest unanswered question related to the future of higher education is what impact the electronic information technologies will have on this nation's colleges and universities. It is impossible to know now what the ultimate result will be. Computer technology has the potential to produce as much change in our society as the invention of the printing press. As a society, we are still in the early stages of the adoption of technology and may not even realize it has begun to change our life-styles and reshape our institutions until it is too late either to control the effects or shape the future.

It is possible that higher learning might be completely deinstitutionalized as information technology and computer networks are improved and become common on all campuses. Higher education may no longer be identified with institutions as defined by bricks, faculty, and libraries, but with a content of knowledge that could be learned wherever and whenever it best suited the student. Our institutions of higher education, as presently constituted, would be anachronistic in such a learning environment. As one writer put it,

> Some wealthy institutions may seek to perpetuate their present form. But the unique structure of the American research university, in which professors do research aided by assistants who support themselves in part by teaching undergraduates what they should have learned in secondary schools may come undone.[48]

Perhaps this is one possible future for higher education. In that case, there would be no need to worry about the future of academic libraries—they would disappear along with their parent institutions. There are, however, many counterarguments that could be put forth against such a future. It could be asserted that the personal interaction between teacher and student will never be replaced by a machine. Naisbitt has written about the need for "high touch" in a high-tech world.[49] The humanistic elements of education would still be important to most individuals. One might also contend that institutions of higher education play an important role in socializing students which could not be duplicated in an environment where a learner studies in isolation connected to others only by means of telecommunication channels.

But, regardless of how alien the above vision seems, higher education is likely to be transformed at some point in the future as the result of technology. It is impossible now to do more than conjecture about what shape this transformation will take and when it will occur. It seems highly unlikely that this transformation will take place within the next fifty years, since it has been shown that forecasters tend to overestimate what is likely to occur in the short run and underestimate or fail to anticipate at all what will happen in the long run.[50] So dramatic change will not come quickly to higher education but it will

come eventually. To avoid the fate of the carriage makers of the nineteenth century who had no idea they would be replaced by the automakers of the twentieth, all individuals involved in higher education, including librarians, need to think about the future direction of the field. While this will not stop the flow of change, at least the changes may not be as "unplanned and unintended" as they might be. Of course, the task is complicated by the fact that the participants have a stake in the existing structure but that is all the more reason for them to want to exert as much influence as possible in shaping the future of higher education.

If the long-term future of both higher education and academic libraries is unclear, the short-term future is much easier to describe. The academic library of the early part of the twenty-first century will still be a strong and vibrant institution. As today, there will be a great diversity in these libraries. Some of the smallest ones may still have made only modest investments in technology although the proliferation of microcomputers will have made technology more affordable for all. Many libraries, especially those in large and wealthy institutions, will have transformed themselves into "electronic" libraries. They will be active participants in an environment where the library serves as the connecting agency or gateway between users and information in all formats. Their services will be available in a much more decentralized fashion, and users will not have to come to a physical entity, the *library,* to use its resources. There will be a much closer relationship (or possibly, a merger) between the library and the computer center, as each discovers that the scholarly information needs of individual institutions can be met only by cooperative effort.

Librarians in this setting will have to learn to handle long-distance users—library patrons whom they have never seen. There will be opportunities for librarians with their specialized knowledge of both information skills and technologies to play more active roles in instruction. The development of electronic libraries will impose still greater demands on academic libraries because the less visible the medium the greater the need for the intermediary.[51]

But despite the heavier use of technology in all types of academic libraries, book collections will continue to be heavily used. Books and computer output will coexist. Libraries will continue to add new technologies but these new technologies will not completely replace the existing ones.

What should librarians be doing now to make the transition to this short-term future easier? First of all, they should be taking an active part in their institution's planning for electronic technologies. Academic librarians need to be at the forefront in discussions about electronic technologies on campuses. They should be working collaboratively with other units on campus such as the computer center and the telecommunications center to explore new ways to exploit the powers of the new technology. They should be discussing how to secure the funding, both for capital costs and ongoing expenditures, that will be necessary to finance the new technologies and services that libraries may provide and how to balance these new costs against the costs for traditional library materials and services that will still be needed. They should be investigating the type of education (and reeducation) necessary for staff to function effectively. Librarians also should be working on difficult issues such as how to handle copyright and ownership of materials in machine readable files and how to provide maintenance for electronic databases that are in a constant state of change. Finally, and most important, academic librarians should be attempting now to define the roles they want libraries and librarians to play, because if they do not, others will define those roles for them. Librarians should seize the initiative to take advantage of opportunities the new technologies are presenting them to make the restructured library a major force in the university's new information environment.

Despite the uncertainties of the future, the opportunities for libraries are bright. Libraries have existed as institutions for

nearly 3,000 years because they have had a vital role to play in society. That role will continue. Fifty years from now academic libraries will still be in existence. They will have changed, no doubt as much or more than the libraries of today have changed from those of 1939. Yet, in 2039, when ACRL celebrates its 100th anniversary, there will be an opportunity for someone else to write an article for *C&RL* about the changes in academic libraries in the last fifty years. It is likely that author too will discuss the unforeseen changes that occurred in libraries since 1989 and how unprepared in some respects libraries were for the changes that befell them. Perhaps, he or she will marvel that the librarians of the twenty-first century are still wrestling with some of the same problems as their predecessors. Will the most appropriate status for academic libraries still be a matter of concern? But there is every reason to believe that the underlying theme of that article as of this one will be that libraries have come through another period of challenge and change and are stronger entities than ever before in institutions of higher education.

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50th Anniversary Feature—

A Statistical Profile of *College & Research Libraries*

Paul Metz

Recent trends in authorship and referencing practices in the pages of College & Research Libraries *are studied. A dramatic increase in the use of quantitative techniques, beginning around 1970 and peaking in the period 1980–84, is also demonstrated.*

As the Association of College and Research Libraries celebrates its fiftieth anniversary, an examination of the past accomplishments of the association is in order. This examination would be incomplete without an analysis and appreciation of the role that *College & Research Libraries (C&RL)* has played. The publication of a high quality journal devoted to the unique challenges and problems of academic and research libraries has always represented one of ACRL's major commitments to its membership.

From the beginning, *C&RL* has been a major instrument of communication among academic and research librarians, and one of the most widely respected journals in librarianship. A study by Robert Swisher and Peggy Smith found that *C&RL* was read by nearly 90 percent of ACRL members working in academic libraries, placing it behind only *American Libraries* in both their 1973 and 1978 surveys.[1] A 1982 survey by David Kohl and Charles Davis found that ARL directors consider *C&RL* to be the most prestigious journal in terms of its value for tenure and promotion decisions at their institutions. When the deans of library schools were asked the same question, publication in *C&RL* was ranked third behind publication in the *Library Quarterly* and *Journal of the American Society for Information Science (JASIS)*.[2]

Citation data reported in *Social Science Citation Index (SSCI)* further support the significance of *C&RL*'s role. For the period 1981 through 1986, *C&RL* was the third most heavily cited library journal covered by *SSCI*, trailing only *Library Journal* and *JASIS*. The impact factors for *C&RL*, reflecting citations per source article, have consistently been among the highest for any library science journal.[3]

A qualitative analysis of the themes which have occurred, and recurred, in the pages of *C&RL* could provide a fascinating and perhaps amusing insight into our past. Academic status; the treatment of nonprint materials; reclassification projects; collection evaluation, including the identification of the percentage of a collection that has never been used; union catalogs and their impact on interlibrary loan—who among us would not recognize these themes from volume 1, published in 1939?

Paul Metz is Reference Librarian and Bibliographer at Virgina Tech University Libraries, Blacksburg, Virginia 24061. *The author wishes to thank Suzanne Kincy for her patience and diligence in coding the data for this study.*

The most useful overview of *C&RL*'s history, Gloria Cline's "*College & Research Libraries:* Its First Forty Years," provides a wealth of bibliometric information describing the history of *C&RL* up to ten years ago. Although Cline coded the subject of each article and reported those findings, the majority of her data describe objective and quantifiable attributes of authors and their citing practices.[4]

The major conclusion of Cline's analysis was that *C&RL*'s history from 1939 to 1979 showed "an overall trend toward greater adherence to the norms of scholarly publication in other disciplines."[5] Among the major trends Cline discerned were the appearance of longer articles with more references on the average and an increase in the incidence of collaborative authorship. Cline found that the references cited by the authors of *C&RL*'s articles had consistently been drawn from the literature of library science and had come disproportionately from recent publications. Both the recency and the subject concentration of cited literatures can be taken as signs of a mature or well-defined field, as Cline suggested. Finally, Cline's research showed a stable tendency throughout the forty years for about 80 percent of authors in *C&RL* to be male.

"Both the recency and the subject concentration of cited literatures can be taken as signs of a mature or well-defined field, as Cline suggested."

The purpose of the present review is twofold: to update selected aspects of Cline's analysis through Volume 49, 1988, in order to determine whether the trends she discerned have continued; and to assess the degree to which *C&RL* has published quantitative research throughout its long history. For this purpose, all articles in Volumes 41–49 were coded on a number of the parameters Cline used and all 2,075 articles in Volumes 1–49 were coded on four new measures designed to assess *C&RL*'s use of quantitative methodology.

BIBLIOMETRIC TRENDS

Cline's data showed that after having previously averaged around 250 articles per five-year period, *C&RL*'s output of articles fell to 163 in the period 1970–74, then recovered partway to a level of 194 articles for the 1975–79 period. The decrease in the number of articles was accompanied by a commensurate growth in the size of the average article. "Whether the increase to 194 in 1975–79 indicates a restabilization of production remains to be seen," she noted.[6]

The current data show that *C&RL* has apparently stabilized the number of articles at a level of just over 200 articles per five-year period—still somewhat below previous levels. For the 1980–84 period, 204 articles were published. The 172 articles published in 1985–88 extrapolate to a level of 215 for the current period. The provision in 1981 of a "Research Notes" section explicitly reserved for short reports of empirical studies may help to explain the partial recovery in article productivity.

Cline's conclusion that *C&RL* had begun to evince higher scholarly standards was based in part on the number of references cited by its authors. Cline noted an uninterrupted increase in the extent of cited literatures throughout *C&RL*'s history. As table 1 shows, this trend has continued. After a small decline in 1980–84, the level of referencing has recently

TABLE 1
REFERENCING CHARACTERISTICS OF *C&RL*, AFTER CLINE

Time Period	% of Unreferenced Articles	Average No. of References/Article
1939–44	45	2.9
1945–49	47	3.2
1950–54	41	3.6
1955–59	39	4.1
1960–64	33	5.9
1965–69	25	9.2
1970–74	13	10.6
1975–79	9	15.5
1980–84	9	14.5
1985–88	8	24.1

Note: The years 1939–44 may be considered a five-year period because one combined volume was published in 1944–45. References to the various five-year periods should not of course obscure the fact that 1985–88 covers four years, with only four volumes.

climbed dramatically. While an increase in bibliographic references could theoretically be attributed to a trend toward the publication of review articles, this is apparently not the case. An inspection of all 5 articles with over 100 references in the most recent time period found that not one was explicitly a review article.

Although the number of references in *C&RL* articles has grown, there has been no significant change in the rate of self-citing, another bibliometric dimension Cline explored. Of the citations in *C&RL* articles, 11.6 percent of the 1980–84 citations and 10.6 percent of the 1985–88 citations were to articles in *C&RL*. These percentages are comfortably within the range of variation Cline observed for the journal's first forty years of publication.

A dramatic increase in the representation of women among *C&RL*'s authors has been perhaps the most notable change in the journal's recent history. Whereas there had previously been only minor deviations from an average of 80 percent male authorship and no observable trend, the percentage of male senior authors (after discounting authors whose sex could not be determined) has fallen sharply in each of the most recent periods. Even a slight continuation of this trend would lead to an even balance in the gender of authors by the next five-year period. Table 2 documents this trend.

Cline's data included a breakdown of the institutional affiliation of senior authors, though these data were reported in the aggregate only, and not by time period. The recent data, presented with Cline's in table 3, show that foreign authors, special librarians, and nonlibrarians have gained prominence as authors in *C&RL*. Authors from government and public libraries, however, have nearly disappeared from the pages of *C&RL*. Analyses of authorship trends in other library journals would provide an interesting test of the possibility that the various kinds of librarianship are becoming increasingly specialized, or alternatively that academic librarianship has moved further away from public librarianship, but closer to special librarianship. The academic library's use of increasingly diverse electronic resources to provide information to specialized researchers would help to support the latter interpretation.

TABLE 2
SEX OF SOURCE AUTHORS, AFTER CLINE

Time Period	% Male Sex	% Female Sex
1939–44	78	22
1945–49	77	23
1950–54	78	22
1955–59	87	13
1960–64	85	15
1965–69	77	23
1970–74	80	20
1975–79	79	21
1980–84	65	35
1985–88	56	44

TABLE 3
TYPE OF INSTITUTION OF SOURCE AUTHORS, AFTER CLINE

Type of Institution	% 1939–79	% 1980–88
Academic libraries	58.70	56.12
Other (nonlibraries)	11.27	17.29
Library schools	8.56	10.11
Government libraries	6.25	0.27
Unknown	3.72	0.80
Foreign libraries	3.55	6.65
Special libraries	3.38	6.38
Public libraries	3.16	1.06
Library associations	1.41	1.33

The final bibliometric measure of Cline's, which this report will extend, is her analysis of collaborative authorship in the pages of *C&RL*. Cline found a continuous decrease throughout the years in the percentage of articles having been written by one author. She noted that this trend paralleled changes in scientific publication patterns observed by Eugene Garfield and I. H. Sher.[7] As table 4 indicates, the trend toward multiple authorship has continued.

A separate analysis revealed that even among articles having multiple authors, there is a pronounced trend toward the sharing of authorship among three or more individuals: whereas 24 of the 189 coauthored articles in 1939–79 had three or more authors (12.7 percent), in 1980–88 this rate had risen to 35 of 144 (24.3 percent).

TABLE 4
EXTENT OF COLLABORATIVE AUTHORSHIP, AFTER CLINE

Time Period	% Articles Having No Coauthors
1939–44	95.7
1945–49	95.6
1950–54	93.5
1955–59	92.7
1960–64	94.0
1965–69	85.9
1970–74	79.1
1975–79	72.7
1980–84	68.1
1985–88	54.1

QUANTITATIVE METHODS IN *C&RL*

While trends in authorship and referencing practices can reveal much about the nature of scholarship and research, such data cannot measure the kinds of evidence and means of manipulating or presenting data which are considered valid and important in a given discipline. Even the most cursory review of the history of *C&RL*, or indeed of many other journals in librarianship would make apparent an increasing reliance on methodological techniques imported from the social sciences, specifically on the use of statistical analysis.

"Even the most cursory review of the history of *C&RL* . . . would make apparent an increasing reliance on methodological techniques imported from the social sciences, and specifically on the use of statistical analysis."

An interesting study by Soon Kim and Mary Kim has demonstrated the increased reliance on quantitative techniques in the pages of *C&RL* in the period 1957–76.[8] Comparing the decade 1967–76 to the previous decade, Kim and Kim noted a near tripling in the frequency of quantitative studies—from 15 percent of articles in 1957–66 to 43 percent of articles in 1967–76. Survey research techniques, most frequently based on the use of questionnaire data, were employed in the majority of these articles.

Kim and Kim noted that research studies had become more rigorous in the second decade under review. Research hypotheses were more likely to be stated explicitly. Sampling designs had improved and been reported in greater detail. The use of accepted statistical tests had increased. For example, correlations were reported in 8 percent of the articles in the second decade as opposed to 3 percent in the first.

Kim and Kim's study raises two obvious questions for further analysis:

1. to what extent did *C&RL* report the results of quantitative studies in the years previous to their report; and
2. have the trends Kim and Kim discovered continued?

In order to assess *C&RL*'s dependence on statistical techniques in particular, but more generally on the use of objective and quantifiable data, all articles from volumes 1–49 were coded on four new measures. Compared to Kim and Kim's approach, less emphasis was put on specific techniques of data gathering and analysis, and more was placed on the ways in which data were presented. The definitions of the four measures employed in this part of the analysis are given below. A single occurrence of any of the characteristics listed caused an article to be coded positively for the presence of the attribute in question.

1. Use of schematic displays.

A *schematic display* was considered to be any figure or chart used to illustrate a typology, to demonstrate causality, or otherwise to make explicit the relationship between variables. Examples include flow charts; illustrations of the relationships between variables; and gantt charts. Photographs or sketches of physical phenomenon were excluded.

2. Numeric charts

A *numeric chart* was defined as a chart (not a table) presenting explicitly numeric data. Numeric values are either explicitly reported, as in most pie charts, or may be estimated by reading row or column headers. Any chart with numeric labels was coded unless the only numbers were dates; such a chart would be considered a schematic display.

TABLE 5
PERCENT OF ARTICLES DISPLAYING
VARIOUS FEATURES OF QUANTITATIVE METHODOLOGY

Time Period	Schematics	Numerical Charts	Data Tables	Measures of Association
1939–44	3.0	2.4	14.6	1.0
1945–49	0.7	0.0	15.0	0.4
1950–54	2.6	1.5	26.3	0.5
1955–59	1.0	0.5	13.7	0.5
1960–64	1.9	3.7	21.5	2.3
1965–69	4.8	6.3	38.5	3.6
1970–74	6.5	6.5	39.3	14.3
1975–79	3.1	8.7	42.9	9.2
1980–84	4.9	14.7	60.8	23.0
1985–88	5.8	8.7	45.9	19.2

3. Data tables

Conventional tables reporting quantitative data or the presence/absence of specific attributes were coded as data tables. Most consisted of numeric reports in column and row format, but in some cases authors simply reproduced their survey instruments and included the results.

4. Measures of association

Articles containing one or more measures of association, such as correlation, or of statistical significance (chi-square, *t*-tests, etc.), were coded positively on this measure. As a rule, measures of association appear in articles attempting to demonstrate causality by analyzing statistical data.

The percentage of articles from each five-year period which displayed each of the attributes of quantitative or semi-quantitative research style described above is shown in table 5.

As the table makes clear, articles in *C&RL* continued to become more quantitative beyond the years of Kim and Kim's study. The high watermark for three of the four measures of quantitative style was reached in the years 1980–84. During that period, three-fifths of *C&RL*'s articles displayed data in tabular form and nearly one-quarter used one or another measure of association. Three of the four measures show a considerable decrease in quantitative techniques for the most recent period, though all four measures remain higher than they were previous to 1980.

It can be argued that library research has been modeled loosely on the approaches and techniques of the social sciences. It would be consistent with this view to maintain that library research has been sorting out its paradigms; that quantitative techniques appeared at one point to have gained the ascendancy; and that research has since become more eclectic, with quantitative methodology accepted as one of a variety of fully legitimate and useful research approaches from which researchers may select, depending on the task at hand. That quantitative methodology in library research apparently reached its peak somewhat later than in the social sciences themselves would be consistent with the argument that in its research techniques library science is somewhat derivative of the social sciences.

CONCLUSION

Authorship and citation patterns in *C&RL* show that the journal has continued to follow scholarly models. Both the incidence of co-authorship and the prevalence of references to the existing literature continue to increase. Female authors have reached near-parity with males in their representation in the pages of *C&RL*, but are still seriously underrepresented relative to their numbers among academic librarians. Quantitative methods have established an apparently permanent place in academic library research but will apparently not become the sole acceptable means of supporting arguments.

Trends are best observed and described at a comfortable remove. For that reason, an authoritative summary of the directions *C&RL* is taking and what they may tell us about academic librarianship must await future analysis. We can look forward to discovering what future retrospectives of *C&RL* will reveal.

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With a clear mandate to promote the diffusion of knowledge, librarians have a much more dynamic role to play than simply that of "deciding what to conserve and what to neglect." They have to devise ways and means of taking these "useful ideas" to the people. They have to be active agents in the process of communication, and so far they have only just begun to perform this task. It is the performance of this task—the task of helping to keep the people in touch with the knowledge uncovered by modern science—that is the peculiar challenge of librarianship.

—Glen Burch, "Communication and the Community" (September 1945), p.395

50th Anniversary Feature—

"The Future of the Research Library" by Fremont Rider: A Reprint of a *C&RL* Classic

"As early as 1940, Fremont C. Rider predicted unprecedented growth for American university libraries, based on a nationwide survey of collection data. His subsequent book-length elaboration of these data, which also included a plan for the control of growth, has served since that time as the point of departure for any discussion of collection size, growth, and the many implications of these. In that seminal work, [*The Scholar and the Future of the Research Library*] Rider examined some of the past efforts to control size, such as weeding and resource sharing, and found them wanting. His recommended solution to the problem rests on a combination of uses of microform. An underlying assumption, however, is that humanists are the primary users of libraries, that their sources are vast, but that a solution to the problems of meeting the humanists' needs would, by and large, also solve the problems of growth and size more generally."—Charles B. Osburn, *Academic Research and Library Resources: Changing Patterns in America* (Westport, Conn.: Greenwood, 1979), p.92.

"The Future of the Research Library," by Fremont Rider, appeared in *College & Research Library* 5:301–8 (Sept. 1944).—*Ed.*

50th Anniversary Feature—

The Future of the Research Library

Fremont Rider

Mr. Rider is librarian of Wesleyan University. The editors asked him to try to summarize the main line of reasoning developed at length in his provocative new book, The Scholar and the Future of the Research Library, *published last month. This article is the result of that request. Appraisal should be withheld until the book itself is read.*

Of all the problems which have of recent years engaged the attention of educators and librarians none have been more puzzling than those posed by the astonishing growth of our great research libraries. My own interest in this subject has, over the years, resulted in a series of papers, some of them mainly analyses but others endeavoring to suggest specific answers to parts of what has sometimes seemed to be an almost insoluble puzzle.

I would be the first to admit that, as a whole, these papers were all tentative, inconclusive, even in places mutually contradictory. They made no claim then to be anything else. They were a "thinking out loud," an attempt to suggest directions along which solutions might possibly be arrived at rather than an offering of assured conclusions. But one very definite conclusion they did reach: that no emendations in library methods alone are going to solve our research library growth problem, for any savings so effected are quickly overwhelmed by its ever-increasing magnitude. More and more over the years I became convinced that our only possible answer lies in interlibrary cooperation and cooperation on a much more sweeping scale than any we have ever envisaged. So when two years ago the committee headed by Mr. Metcalf made its epoch-making "division-of-fields" report, it seemed to me a very important step in the right direction.

It is now four years since the idea came to me which is the subject matter of the book of which this paper is intended to give a sort of preview. It was an idea that seemed so obviously and completely "right" that I was very definitely afraid of it! I distrusted my own judgment. So there followed four years of making and remaking innumerable samples of it, of attacking it, testing it, criticizing it. But it had a disconcerting ability: it seemed able to convert every new objection brought against it into a new argument in its favor.

In all the endeavors that we may make to solve the problem of research library growth we must always remember that no solution is going to be entirely satisfactory to the scholar if, directly or indirectly, it takes his books away from him.[1] Having the text of his material conveniently near his elbow is his *sine qua non*. Compared with this immediate availability of his text, every other service which we, as librarians, may offer him—no matter what it is—is, to him, relatively unimportant. But, obviously, if research libraries are going to continue to double in size every sixteen years (or every twenty years or every thirty years for that matter), we are not going to be able to keep the scholar's books at his elbow unless we can find some quite unprecedentedly inexpensive way to do it.

FOUR-PART COST

And we must always bear in mind a second premise, that the cost of maintaining a research library is not a matter merely of

the original purchase cost of its materials. These must be made amazingly cheap, to be sure. But purchase cost is only the first of four main categories of cost.[2] Our cataloging of them must also be made amazingly cheap, our storage of them amazingly cheap. We must never forget that this problem of library growth of ours is always this four-part problem and that *unless we are able to accomplish a reduction in the cost of all these four parts we arrive at no real solution of it.*

But, if one sits back and views the whole problem quietly and quite dispassionately, it becomes increasingly obvious that any such extreme reductions in cost as the situation demands are quite impossible of realization unless we are able to develop some entirely new synthesis, some entirely new integration of our materials. This was the point at which I had arrived four years ago. This is the question which, it would seem, faces the library world now: is any such a new synthesis possible? *Is it possible that we are approaching the end of an era in our library methodology?*

It is now sixty or seventy years since, under the compelling assurance of Dewey and Cutter and Poole and their fellow pioneers, the library world crystallized a definite pattern of library technique which, although it has been greatly amplified and refined, has never been basically changed. There has even been a tendency in some library circles to take it for granted that it was a final technique. But no technology is ever final or finished. Entirely new conditions arise. In the library world we see them already arisen: in fact they are pressing upon us for solution. Can it be that we are standing on the threshold of changes in our libraries that are going to be far more sweeping than those which the library pioneers developed six or seven decades ago?

MASS AND DETAIL

Libraries are great complexes of tiny items, items which it is impossible to handle on a mass-production basis because each one, tiny though it is, is highly individualized and demands equally individualistic treatment. It is this combination of enormous mass and extreme individualization of detail that has made the problem of research library growth so difficult a one to solve. And our search for a solution has been further complicated by our insistence on viewing the problem, not as one, but as a whole line of problems, problems interconnected at various points to be sure but apparently not in any way that helped us.

We have tried—and this was just as true of my own efforts as of anyone else's—to solve the various phases of our problem one by one as though each existed in a vacuum, not tied up—as they are—in a veritable mesh of methodological interrelationships. We have tried to solve our problem of swollen cataloging cost as though it were a separate and independent problem and our book storage problem as though it also were something separate and independent. We have tried to economize on binding costs as such, on circulation costs as such, on ordering costs as such, etc., etc. And the reason that we did this, the reason that we failed to integrate what were really interlinked factors of one single problem, was that we were blinded by the *status quo*. We insisted on continuing to accept as library axioms, unalterable and unquestionable, certain assumptions which had no validity as axioms, such pseudo-axioms as: libraries are collections of books, books are stored on shelves, library materials have to be cataloged, catalogs have to be made on cards, books must be arranged by their call numbers, etc., etc., etc. It is not until we have looked behind, and beyond, every one of these—and many other—supposedly basic axioms of library method and have seriously questioned their immutability, that we begin to make any real progress. For when we do this we are suddenly amazed to find the mismatched bits of our research library growth-puzzle falling, almost of themselves, into a quite astonishingly new synthesis.

A SAMPLE OF MICRO-REDUCTION

Let us see if the phrase used above, "failed to integrate," can be made more concrete. Some months ago we here at Wesleyan bought, from the Readex Micro-

print Corporation, their reproduction of the two English literature volumes of the *Church Catalog*. Their micro-print copy of these volumes came to us on six leaves of paper, each leaf six-by-nine inches in size and each printed on both sides. The six leaves were delivered to us enclosed in a substantially made, linen-bound slip-cover box, six and one half by ten inches, and two inches thick, duly labeled on its back-strip edge so that it could be stored upright on the shelf like a book.

The point we are getting at here is this: the *Church Catalog* had, by micro-reduction, been greatly reduced in purchase cost, had been reduced in fact to about one twenty-fifth of its established auction price in book form. And, obviously, that is a very substantial accomplishment. But book purchase cost, we must always remember, is only the first of four categories of book cost. What had the Readex people done about the other three? Clearly they might, in some way, have done *something* about storage cost at least; because they had, through the magic of micro-reduction, shrunk twelve hundred large pages down to twelve small ones, *i.e.*, they had effected a more than 99 percent decrease in storage bulk.

FAILURE TO INTEGRATE

But in this particular case, as in most of the attacks which we librarians have ourselves made upon the library growth problem, there had occurred at this point *a failure to integrate* all four of the factors of cost. What was the result? So far as storage was concerned our six leaves of micro-printed *Church Catalog* were delivered to us as a complete unit in a form that negatived practically all of the saving in storage cost that micro-reduction had effected. We were, to all intents and purposes, put right back where we started: we were asked to handle and store a "book" again and a fairly bulky book at that.

What of the last cost factor, cataloging? About it also the Readex people did nothing. It never even occurred to them that it was any business of theirs to do anything. (And, very possibly, at this stage, it wasn't.) In any event their failure to integrate cost four into their over-all production picture meant that, when we received our six-leaf "book" from them, we had to catalog it ourselves; and, in doing our cataloging of it, we had to follow exactly the same procedure, and had to incur exactly the same expense, as we would have had if we had been cataloging the *Church Catalog* in its original two-volume form.

This particular illustrative example has been picked out, not because the Readex people did anything short-sighted or at all out of the ordinary. Quite the contrary. They did exactly what all other publishers and all librarians have been doing. But what they did shows, in essence, why the micro-reduction of books for libraries has been, to date, so relatively disappointing a development. For—all propaganda to the contrary notwithstanding—it *has* been disappointing. We have had coming into our research libraries a mere trickle of micro-materials, where our micro-enthusiasts had hoped for, and had expected to have, a flood. And the reasons why this flood has never come is the one just stated: micro-reduction has never yet really integrated itself into library practice. *Micro-materials have always been treated* (by their makers, by their users—and by librarians) *as though they were books*. A different sort of books, to be sure, an annoyingly different sort, and so problem-making instead of problem-solving.

CHANCE TO BEGIN AGAIN

No one seems to have realized that, abruptly, for the first time in over two thousand years, libraries *were here being offered a chance to begin all over again*. In this first half of the twentieth century A.D. the recorded words of men were coming in to us librarians, not in the form of the books in which they have been coming in to us for two milleniums, but in a brand-new form, an utterly, completely, basically different form, a form that demanded and that, if we could only see it, would require an utterly and completely and basically different library treatment.[3] Because we didn't see this, we tried our hardest to treat them in the way we treated books. And we became annoyed when this didn't seem to work out very well.

Did it work well? Consider what we

have all been doing when we took in a twenty-page pamphlet which had been reduced for us to a ten-inch strip of microfilm. A ten-inch strip of film doesn't seem to fit into conventional library practice *any*where. How, for instance, have we tried to store it? Some of us put it in a box on the shelves. But, if we did that, we canceled—exactly as the Readex people did with the *Church Catalog*—all of the economy in storage space that micro-reduction has salvaged for us. Some of us put such a snippet in an envelope, and then filed the envelope in some sort of a vertical file. This worked fairly well, provided we had enough similar snippets to make a real file out of them, which most of us have not had. Some of us tried splicing a lot of such snippets together until we had created a composite reel of odds and ends. But this result was, of course, always a hodgepodge, awkward to use—and a sad mess to catalog.

CATALOGING

"To catalog!" Here we are, back again to the fourth great factor of our growth problem, to that cost which, in actual fact, bulks larger than any one of the other three. Who has made any attempt whatever really to integrate micro-reduction and cataloging? Remember that now we don't mean drawing up a set of supplementary cataloging "rules," to be duly inserted in our cataloging "codes," rules to cover such questions as: "What additional data, if any, should be given when we are cataloging materials in microform?" "What form of 'collation' is required when cataloging films?" "Who, in the case of films, shall be deemed the 'publisher'?" and such similar cataloging minutiae.

It can be granted that there is in the record any amount of *this* sort of cataloging discussion. But now we are talking about something far deeper and more fundamental. We mean: what thought has been given to the idea that micro-reduction *might* make possible some basically new concept of cataloging, *might* make practicable some entirely new approach to the whole cataloging process? For this sort of discussion one searches the literature of microfilm almost in vain.

Almost. In his comprehensive compendium, *Photographic Reproduction for Libraries*, published only a few months ago, Herman H. Fussler, of the University of Chicago, does give a hint—not much but still a hint—of the sort of thing that we are now talking about. He says (here abridging his comment but italicizing some significant phrases):

> The use of microfilm by libraries . . . has not resulted *in basic changes* of methods or organization . . . the question must be raised as to whether . . . we have gone far enough. Is it possible . . . *to utilize reproductive techniques in new and radical ways* which would result in . . . greater efficiency . . . to library patrons . . . *in ways . . . entirely divergent* from our present conception of library organization methods?

And a little further along he answers this question of his in these words:

> There is a body of evidence in the experience of nonlibrary and nonresearch organization and in the inherent nature of the techniques themselves, to point toward an affirmative . . . answer. . . . *The library profession cannot afford to be too complacent or too conservative . . . if the library is to keep its rightful place in these swiftly changing times.*

DR. BENDIKSON'S WORK

For many years, if any of us had made any attempt to effect the sort of new integration that we are now talking about, we would have been handicapped by the form in which micro-materials were being given to us. Two thousand years ago books in roll form gave place to books in folded flat-sheet form. But, although some of us have felt strongly that, sooner or later, micro-materials in roll form would make the same transition, there had, until recently, been discovered no practicable way to accomplish it. And, although we further suspected—some of us—that the material that was going ultimately to be used for these flat micro-materials would be paper, or its equivalent, primarily because paper is cheaper than film but also because it is more resistant to handling abuse, we had found no way to make this change either.

But, because we had these two ideas, some of us felt that Dr. Bendikson, of the

Huntington Library, had been on the right track in his work, a decade or more ago, with paper photo-micro-prints, and thought that the very significant pioneer studies that he then made did not receive as much attention as, perhaps, they deserved. He had, of course, been stymied at the time he made them by the difficulty of reading his small-scale micro-reductions in paper-print form; but one may suspect that he believed that some day the optical difficulties that stood in the way of this sort of micro-reading, as well as the technical difficulties that prevented the printing of micro-materials on paper, would both ultimately be solved. If he did have this faith it was justified. When word came to me one day three or four years ago that the Readex people had found the answer to both of these problems I was so excited that I took the next train to New York to see exactly what they had accomplished. They *had* indeed made a vast stride forward: we as librarians are not yet fully aware how great a stride. Before our eyes entirely new possibilities in the use of micro-reduced materials were opening up: entirely new micro-concepts were at last taking practicable shape.

Of course Dr. Bendikson and Mr. Boni are only two out of a great many micro-pioneers. There was the unknown man—whoever he was—who *first* took a miniature camera shot of a printed page. There have been Binkley, Draeger, Tate, Pratt, Raney, Metcalf, and a long list of others, who have struggled intelligently, unselfishly, and successfully to make microphotography the practicable library tool that it now is. These micro-pioneers are not the ones responsible for *our* failure to integrate their work more closely into our own. That was not their job. They were interested primarily in the technical problems which their new medium presented. They almost had to be. And, as a result of their ingenuity and vision and sacrifice, we have now attained a relative perfection of technical result which places us very much, and forever, in their debt.

USE OF CATALOG CARDS

The new idea that is the subject matter of the book of which this paper is a summary came into being, as many such things do, from a quite unexpected direction. In attacking the library growth problem from all sorts of angles I had, for one thing, become acutely dissatisfied with some of the aspects of our conventional catalog card. And one thing about it that kept bothering me was the way it wasted perfectly good—and relatively expensive—card space. In the first place, the face of the card was wasteful. Measurement of the superficial area of a great many catalog entries showed that, in the great majority of cases, a half-size card (*i.e.*, a card $6\frac{1}{4} \times 7\frac{1}{2}$ cm.) would provide all the space that was needed. And such a small card could be read and handled almost as easily as our so-called standard-size catalog card.

But, although I even went so far as to suggest in one of my early papers[4] the possibility of giving such half-size catalog cards serious consideration and although, here at Wesleyan, we have for several years been successfully using such cards—several millions of them—for another purpose,[5] I was still not at all convinced that we ought to change to them for cataloging. For one thing, half-size cards would not, of themselves, do anything about the wasted backs of our present cards. And, because this waste was twice as great as the waste on the fronts of the cards, it intrigued me that much more.

USE OF WASTE SPACE

The waste of space on a standard catalog card—even though it is a waste of three quarters of every card and even though it is being repeated on billions of catalog cards all over the world—might not seem, to most people, important enough to spend very much time over. But, as I was thinking about it one day, this idea came to me: *why might we not combine the micro-texts of our books and the catalog cards for these same books in one single entity?* In other words, *why could we not put our micro-books on the (at present entirely unused) backs of their own catalog cards?* And wasn't *this* that new "integration" of our basic materials that I had for years been looking for? I called this new concept, this new correlation of functions, a "micro-card."

The more I considered this new micro-

card idea, the more it grew on me. For, with almost miraculous simplicity, it seemed, automatically, *to solve, not one, but all four of the factors of our growth problem*. In my remaining space let me—very briefly indeed—run over these four solutions.

The cut in first cost, the original purchase cost of the text, is obvious. In the *Church Catalog* case the saving made was about 99 percent. In very few cases will it be less than 90 percent.

STORAGE COST

Second, storage cost. Any one familiar with microfilm knows that a fair amount of micro-text can be put on the back of a standard-size catalog card, but even some microfilm enthusiasts may be surprised to learn *how* much can be put there. We are assuredly today only in the first stages of micro-reduction technique, yet even today it is possible—by using some very simple new methods in our photographing[6]—to get as many as 250 pages of an ordinary twelvemo book on the back of a single catalog card. And there can be no doubt at all that, given just a slight further smoothness in film graining, just a little more technical skill in micro-photographing, just a little more improvement in lenses and in camera efficiency, we shall be able, and in a very few years at that, to put, if we wish, as many as five hundred ordinary-size book pages—in other words a regular full-size twelvemo book—*on the back of one single catalog card*.

Of course, as has just been suggested, we can't do this if we insist on following the conventional method that we have always followed in the micro-photographing of our texts. But there isn't the slightest reason why we should follow them.

Furthermore, very often—in fact, in most cases—we shall *not* want to put 250 pages, or anything like that number of pages, on the back of a single catalog card, even if we are technically able to do so. Other and very important factors indeed[7] are going to enter into this particular question, and it is these factors rather than ultimate compactness in storage that are going to determine the number of pages we put on each card.

100 PERCENT SAVING

In one sense micro-cards will reduce our storage cost not 90 percent or 99 percent but a full 100 percent. Now it must be admitted that to claim a saving of 100 percent on storage cost sounds a little crazy. But consider. A single twenty-three-inch-long catalog drawer would, if it were full of micro-cards, hold twenty-three hundred author-entry catalog cards, for twenty-three hundred books. It would also hold, on their backs—if we assume for the purpose of this example that none of this particular lot of books happened to be over 250 pages long—*the complete unabridged texts of all these same twenty-three hundred books in micro-reduced form*. And, obviously, to get in one single catalog drawer twenty-three hundred complete "books," books which would require for their storage in normal book form a row of eight bookcases, each case seven shelves high and three feet wide, would seem in itself to be quite enough of a miracle. But we said that our storage saving was 100 percent. And 100 percent it literally is. For our twenty-three hundred volumes, when they have been reduced to micro-card form, *actually occupy no space whatever*, because what they occupy is *the white space on the backs of the cards that would have had to be in that catalog drawer anyway if we had not printed our micro-texts on it*.

Take next, the third category of research library growth costs—binding. With micro-cards, binding costs also have evaporated. They too have been cut a full 100 percent.

Yet still we have not reached—in fact we have not begun to reach—the end of the economies which micro-cards offer us. There remains the fourth and last factor of our growth cost problem: cataloging.

For decades librarians have been talking about cooperative cataloging, and yet, through all these same decades they have kept right on doing a large part of their cataloging over and over again, in each of their libraries, independently. Now micro-cards come to invite those libraries for which they are intended—namely research libraries—to save somewhere between 96 and 99 percent of their present entire cataloging cost. "Invite" isn't a

good word: "force" would be a better one. For with micro-cards it is hardly possible to avoid, even if one wanted to do so, the enormous economies of genuine and complete cooperative cataloging. Why? *Because whoever prints one side of our micro-card will in practice print the other side also.*[8] And just as the cost of printing the micro-card text, already small though it is in total, is divided up between a hundred or two hundred subscribing libraries, so the cost of cataloging will also be divided between the same one hundred or two hundred libraries. This means that our present costs for independently done cataloging will, for micro-cards, shrink almost to the vanishing point. Instead of a dollar or so per cataloged item, they will become a matter of a cent per item or less.

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2. Further discussed in *op. cit.*, part 1, chapter 3.
3. For the "circulation aspects of the 'solution' " here proposed see *op. cit.*, part 2, chapter 6; for the cataloging side, see part 2, chapters 3 and 4.
4. "The Possibility of Discarding the Card Catalog." *Library Quarterly* 8:329–45, July 1938.
5. In the work of the American Genealogical Index.
6. Discussed in detail in Rider, *op. cit.*, part 2, chapter 2.
7. These are discussed in *op. cit.*, part 2, chapter 5, part 2, chapter 10.
8. The publishing of micro-cards is discussed in part 2, chapter 7, and in the two following chapters.

Electronic Information and Technology: Impact and Potential for Academic Libraries

Dilys E. Morris

This article discusses the impact of technology and the economics of information on academic libraries. It calls on libraries to forge a renewed national commitment to cooperate in the building of a national information network for scholarly communications that is based on the existing bibliographic utilities and the developing academic networks.

For centuries the power of information has been understood, and great efforts have gone into controlling it. But with the spread of education and literacy in the Western world during the nineteenth and twentieth centuries, the control of information and ideas has become more difficult. While experts disagree on the date, sometime during the last half-century computers and telecommunications began to converge to produce an information society which, according to Harlan Cleveland, is transforming not only our personal lives but also our national politics and our international relations. Computers have enormously increased humanity's power to think and analyze, and the telecommunications revolution allows the new knowledge being produced to spread at nearly the speed of light to anywhere in the world. As the amount of information has grown, more and more people have come to work with it—to produce, organize, distribute, use, study, control, and sell it—and whole new industries have grown up around it. In most areas decision making has become considerably more participatory because the volume of information available on almost any subject can no longer be digested and understood by the limited number of individuals who once made decisions.

While more information is available to greater numbers of consumers, and the spread of microcomputers in homes, offices, and laboratories makes access more widespread, there are forces working to limit access to information in electronic formats. Governments have traditionally classified information critical to national defense, but recently, however, the Reagan administration attempted to control access to unclassified but "sensitive" government information in *both* government *and* private databases through executive branch directives.

As a consequence of strong criticism aired during congressional hearings by witnesses both inside and outside of government—including librarians—one directive has been rescinded, and it appears that the other will be stopped through legislation.[1] At the same time, industries attempt to control information in order to secure their competitive positions

Dilys E. Morris is Assistant Director, Technical Services, Iowa State University, Ames, Iowa 50011-2140.

and to make money. Libraries, in a very limited fashion, are trying to make electronic information available to their users, but most charge fees to do so. Michael Nelson documents "a disturbing upward trend in the prices imposed by database producers and vendors. In the face of declining hardware and storage costs, prices for printing, displaying, or downloading online records are gradually reaching levels that inhibit their effective use as comprehensive information sources."[2] These are all serious issues for librarians, but greater public attention is needed if we hope to help influence the availability of information in our society.

ECONOMICS OF INFORMATION

According to Peter Drucker, information is now our crucial resource, but its inherent characteristics are different from those of natural and manmade physical resources. Harlan Cleveland defines the differences as follows:

1. *Information is expandable* . . . information expands as it is used. Whole industries have grown up to exploit this characteristic of information: scientific research, technology transfer, computer software . . . , and agencies for publishing, advertising, public relations, and government propaganda to spread the word (and thus enhance the word's value).

2. *Information is not resource-hungry.* Compared to the steel-and-automobile economy, the production and distribution of information are remarkably sparing in their requirements for energy and other physical and biological resources. Investments, pricing policies, and power relationships that assume the more developed countries will gobble up disproportionate shares of real resources are overdue for wholesale revision.

3. *Information is substitutable.* Information can, and increasingly does, replace capital, labor, and physical materials. Robotics and automation in factories and offices are displacing workers and thus requiring a transformation of the labor force. Any machine that can be accessed by computerized telecommunications doesn't have to be in your own inventory. . . .

4. *Information is transportable.* Words and numbers can be transmitted at close to the speed of light. As a result, remoteness is now more a matter of choice than geography. You can sit in Auckland, New Zealand, and play the New York stock markets in real time—if you don't mind keeping slightly peculiar hours. And the same is true, without the big gap in time zones, of people in any rural hamlet in the United States. In the world of information-richness, you will be able to be remote if you want to, but you'll have to work at it.

5. *Information is diffusive.* Information tends to leak—and the more it leaks the more we have. It is not the inherent tendency of natural resources to leak. Jewels may be stolen; a lump or two of coal may fall off the railroad car on its way from Montana; there is an occasional spillage of oil in the ocean. The leakage of information, however, is wholesale, pervasive, and continuous. In the era of the institutional leak, monopolizing information is very nearly a contradiction in terms; that can be done only in more and more specialized fields, for shorter and shorter periods of time.

6. *Information is shareable.* Shortly before his death, the great British communications theorist Colin Cherry wrote that information by nature cannot give rise to exchange transactions, only to sharing transactions. Things are exchanged: if I give you a flower or sell you my automobile, you have it and I don't. But if I sell you an idea or give you a fact, we both have it.[3]

Because information may be our crucial resource and because its characteristics are different, Cleveland maintains that the way our society has traditionally controlled resources will not work for information. We will find that the institutions and systems developed for a civilization based on industrial production are inadequate for the information society. He believes that the information age is creating a new opportunity for a better society as discrimination and unfairness crumble "because the old means of control are of dwindling efficacy, secrets are harder and harder to keep, and ownership, early arrival [to valuable resources], and geography are of dwindling significance in getting access to the knowledge and wisdom which are the really valuable legal tender of our time."[4] Yet viewed from a different perspective, the democratization of information, in which libraries have played an important role, is at risk. Both the private and governmental sectors, for new and differing reasons, impede the free flow of information. In this pivotal environment, where access to information could improve or denigrate, the civic role of librarians grows increasingly important, and we

must continue to strengthen and uphold it. The changes caused by the "informatization" of society will greatly impact libraries, and we should take an active role in shaping the future.

IMPACT OF TECHNOLOGY

The adoption of technology by society is generally divided into three stages. In the first, we continue to do familiar and traditional things we have always done, but we do them better and faster. In other words, we mechanize. During the second stage, the tasks themselves change because technology has revised what we do, and things are done that were never done before. Finally, in the last stage, technology causes our society itself to change, and fundamental changes in life-styles and institutions occur. This transformation is clearly illustrated by the invention of the internal combustion engine and the enormous changes the development of the automobile caused in our society.

While there is a subtle continuum in the adoption of technology, most libraries are experiencing the first phase of technological change as they automate circulation, acquisitions, card catalog production, and serials control. We have not changed what we do for the most part; instead we have simply improved the way we do it through mechanization. Now that we are entering the second phase, we begin to think about what we do rather than just how we do it. The online catalog with its enhanced keyword and Boolean access allows retrieval never before possible. Database search services are moving reference librarians into stage two as they perform tasks very different from traditional duties. As we progress through this phase, there will be many more significant changes in the services libraries offer, how libraries are organized to provide these services, and how they interrelate with other institutions.

Rowland C. W. Brown, president and CEO of OCLC, predicts that the opportunity to improve and change services radically will become more viable because the technological advances being made now are in areas important to library development. Developing technology is divided into three categories or abilities: (1) to process and compute data, (2) to store data, and (3) to retrieve, communicate, and reproduce data. Until fairly recently most of the advances were in the first category, processing power. For libraries to make real changes, improvements in storage and communication technologies are needed. These advances are occurring now but unfortunately, software still lags significantly behind hardware, and the full potential for improvement is many years away. Because new technologies often go beyond our range of experiences, we tend to overestimate what will happen in the next five years and underestimate longer-range possibilities. We are also constrained by institutional barriers and inadequate financial resources.[5]

"The use of BITNET and the proposed expansion of NSFnet for scholarly communication illustrate how scholars are changing their work, study, and research habits."

CHANGING SCHOLARLY COMMUNICATIONS

Most libraries are marginally involved in the use of electronic information through online database searching and the newer CD-ROM databases. While the sale of commercially available information in electronic format is growing rapidly, libraries represent only a small percentage of these sales. At the same time, networks for the exchange and distribution of noncommercially available information are increasing in the private and public sectors. The National Science Foundation's new networking program, NSFnet, was planned for high-speed access to supercomputers.

In the second phase it will be expanded to a communications network for the nation's research scientists and engineers.[6] BITNET, the interuniversity communications network, is open to any college or university for scholarly and administrative communications, and is also used to exchange manuscripts with publishers

and scholarly materials between colleagues. Funding has been secured from NSF for a prototype experiment to connect BITNET with NSFnet. This connection would give BITNET members full access to the computers in the planned NSFnet.[7]

The use of BITNET and the proposed expansion of NSFnet for scholarly communication illustrate how scholars are changing their work, study, and research habits as they become more computer-literate and as more personal computers become available for use. It appears that unless libraries increase their use of telecommunications technology and services, scholars will seek other agencies to meet their needs. Testifying before a congressional hearing on access to electronic databases, Robert L. Parks, director of the Office of Public Affairs of the American Physical Society, said,

> We are fast approaching the day when electronic databases will largely supplant conventional libraries as the repository of scientific and technical information and will become the preferred means by which scientists communicate their findings.[8]

In a recent article, Clifford Lynch and Edwin Brownrigg, former director of the Division of Library Automation at the University of California, Berkeley, predicted that

> if libraries are to survive as viable services, they must not only understand current computing and telecommunications technologies, but they must develop and execute effective plans to implement these technologies. . . . We would suggest that the place to start is with the development of effective library computer and telecommunications networks and their integration [into] existing national networks.[9]

EXPANDING ELECTRONIC INFORMATION

Although publishing economics is driven by print products, the growing use of electronic information may eventually shift the balance. The economic reliance on printed indexes to subsidize electronic delivery is changing for *Chemical Abstracts*. According to Harry Boyle,

> We are now in the mode where printed product revenue is declining despite price increases on the printed product. The revenue base for the printed product is shrinking. The revenue base for the electronic product is growing. Fifteen years ago the printed product was paying the bills. In the next five years, the electronic form of the product will be the dominant way that the database is used and the printed will become secondary. We are rapidly approaching the point where the electronic use of the product is in fact generating a lot of the revenue needed to build the database, and the printed product is becoming the secondary concern. I don't think we will stop the printed product. But if you look at the economics inside the company, you'll know that electronic use is paying the bills and it is subsidizing the printed product which is an exact reverse of what we saw 15 years ago. So, we're in a transition mode.[10]

The Europe-based ADONIS project, designed to give access to biomedical journal articles and the associated indexing through CD-ROM technology, is functioning in a test mode. Developers are exploring the feasibility of publishers supplying their journals in machine-readable form to document delivery centers that print articles on demand. The objectives of the project, a study of the impact of this service on library users, are to provide insight into information repackaging, implementation of digital technology, and the economics of electronic publishing.[11]

OCLC has expanded into Europe and the Far East. It is working towards delivery of information to users, not just bibliographic citations to librarians. To this end, OCLC is designing a full subject/reference search system for the OCLC database, planning to use this searching software to access separate research databases through an intelligent gateway. With the improvement in facsimile devices and telecommunications, OCLC sees the possibility of not only searching and locating data but also transmitting text to the user.

OCLC is currently experimenting with EIDOS, which provides for browsing and electronic delivery of selected portions of monographic texts. Research has shown that readers only consult certain types of nonfiction books for specific information. Although they check indexes and review the table of contents, they do not read the entire monograph. OCLC might store the text of such monographs in its central

database and load the indexes and tables of content in a library's online catalog. Users would search indexes online and then request appropriate portions of the text from OCLC by telecommunications.[12] Graph-Text is an OCLC electronic journal development project developed with the American Chemical Society and *Chemical Abstracts*. It stores the full text and graphics of articles on CD-ROM, using a powerful search engine that allows full-text searching and reviewing of searches and a laser printer to print the results.[13]

The distribution of government documents in electronic format (Depository Library System) is still uncertain, but OCLC may play a role in transmitting this information to libraries. Current discussions point toward a layered network in which OCLC, other nonprofit networks, and resource libraries with the computer capability to handle a variety of electronic formats would become the conduits for government publications.

BRS/Onsite, which makes databases available locally for a fixed price, includes national bibliographic databases loaded in the BRS format, search and retrieval software, a gateway to the BRS online service, and support. Experimentation has begun in loading these national bibliographic databases on local computers and extending access universitywide. Georgia Institute of Technology implemented its Library 2000 system in November 1986. It provides access to books, documents, and four periodical databases. Students and faculty have remote, free access to any of the databases mounted on the university's mainframe computers.[14]

INFORMATION DELIVERY AND NEW LIBRARY ROLES

Most libraries focus on access to material that they own. Surely this focus must change as more current information becomes available in electronic databases that are used but not owned. We will need to think more about providing information to users rather than directing them to packages of information (books, journals, etc.).

As technology multiplies the available information, there will be a greater need for access, interpretation, and brokering. Librarians are well situated to perform this role, but it will require considerably increased information skills and more staffing. In a recent editorial in *Change*, Frank Newman, president of the Education Commission of the States, discussed the traditional purpose of the academic library—to acquire and loan material to scholars. He concluded that this approach will no longer serve us well because of the developments in telecommunications and computer applications: "Perhaps we have already reached the point where the central purpose of the library, rather than acquisition of materials for loan to scholars, will be the connection of the scholar to different forms of information located in widely diverse places. The major time of the library staff and the resources of the library system will then be deployed in the making of these connections."[15]

In the same issue, Patricia Senn Breivik covered the "Libraries and the Search for Academic Excellence" symposium held at Columbia University in March 1987. The major theme was the changing role of academic libraries in the information age. The overall picture emerging from this symposium is that libraries must become more active partners in the educational arena and that libraries must be involved in preparing students to educate themselves throughout their lives. According to University of Colorado President E. Gordon Gee, a driving force behind the symposium, "We must not only train students to seek the knowledge and wisdom of past generations, but prepare them to use libraries as vital, dynamic resources."[16]

"Can the developing technologies be used to reduce the local cataloging and maintenance efforts further, in order to shift staffing into information provision and instruction?"

BIBLIOGRAPHIC CONTROL AND CHANGING PERSPECTIVES ON LIBRARY CATALOGS

In the area of bibliographic control and access, libraries have worked for nearly a century to establish rules and standards

governing the description and organization of fixed-format materials displayed in card catalogs or early versions of online catalogs. How will we, or indeed, will we catalog and provide access to electronic information that can be combined and recombined on an ad hoc basis? Will there be an archival need for electronic information for historical purposes? Will book cataloging continue to be a local library process, or will it become part of the publishing process? Can the developing technologies be used to reduce the local cataloging and maintenance efforts further, in order to shift staffing into information provision and instruction?

User expectations increase with the advent of online catalogs. Once electronic access is available for book and journal titles, requests grow for similar access to journal articles. Remote access accelerates computer and terminal usage within the academic community and stimulates networking. There is a new interest in expanding the scope of online catalogs to include all types of divergent collections held across campus but not owned by the library, such as machine-readable data-files and software collections, and collections held outside the university, such as the collections at the Center for Research Libraries. Will managers of local online catalogs be able to adjust quickly enough to accommodate requests to enlarge the scope of library catalogs? While automated authority control improves, its development is not keeping up with the changing perspectives of the online catalog. At the same time, online catalogs and acquisitions and serials control systems are reducing the need for centralization of technical services activities because the control records can be made available remotely wherever a terminal can be connected. Such connections become easier with the development of local area networks.

With the advent of online catalogs and acquisitions and serials control systems, libraries are discovering that their traditional organizations may no longer be effective and that new approaches are needed. If technology affects our work and services as this discussion suggests, then our organizations will become even more archaic, and significant rethinking will be required for internal and external relationships with other units, agencies, or institutions and for providing new and needed services.

FUNDING ISSUES

Libraries are not usually generously funded, and many are now facing severe budget problems as the prices for books and journals, particularly those from abroad, continue to spiral. How can libraries stretch already thin acquisitions budgets to cover the expanding electronic information? How will libraries finance the required hardware and software, particularly when obsolescence is rapid and most budgets are annual without mechanisms to save for future capital outlays? How will libraries finance staff training and development in a rapidly changing technological environment? What can libraries do to alert funding agencies to the problems of cost and public access to electronic information in this new era? Will we continue to charge user fees to access electronic information as it becomes a more prevalent information tool, or can new funding approaches be found? Will the spread of electronic information cause significant changes in the publishing industry, particularly in the areas of academic research and scholarship?

NEW DIRECTIONS FOR SCHOLARLY PUBLISHING

Douglas E. Van Houweling, vice-president for Information Technology at the University of Michigan and a member of the OCLC Research Advisory Council, suggests that, working together, libraries, computing centers, and university presses could provide new directions for scholarly publications and, thereby, reduce delays in costs. He points out that many of the elements to change scholarly publishing are now in place, but cooperation and organization are needed to reuse the available tools. Increasing numbers of faculty members are drafting their publications on microcomputers, and standards for producing and transmitting them between editors and review boards are under development. University networks are facilitating the transmission of papers within the university, and a large

number of institutions of higher education are being networked together, as noted earlier, so information can be moved between institutions.

Van Houweling's scenario is intriguing. A scholar with a draft paper creates a preliminary catalog record for the local online catalog by interacting with an expert system. The paper is read electronically by peers. When ready, the paper is transmitted electronically to the journal editor and review board. After all revisions are made, the article is accepted and added to the table of contents. The library is notified electronically, and the cataloging record is updated as appropriate by both publisher and library. The paper gains full publication status. Van Houweling sees the same pattern for book publication and suggests that if libraries install facilities for demand printing of electronic publications, they "would not only avoid many of the costs involved in subscribing to a printed journal or buying a book, but would also become a more integral part of the active scholarly life of the university by capturing publications for broad access at an early stage in their creation."[17]

GOVERNMENT INFORMATION IN ELECTRONIC FORMAT

There is some question as to whether government information in electronic format will be as readily available as its printed precedents. While the legislation enacting the Depository Library System was written before electronic information was envisioned, it is not precluded. The position of many librarians is that equitable citizen access to government information in electronic formats is as essential to the public good as is access to other forms of government information. Equitable access through library information systems is threatened, however, by government policies that seek to restrict the availability of this information and by the fears of the private sector that availability through the Depository Library System (without proper safeguards) encroaches upon its ability to compete in the open market.

NEED FOR CHANGE

It is imperative that librarians focus on the issues raised here and explain them to library users and funding agencies. If the experts are correct about the impact of information and technology on our society, we must be prepared either to change or accept a steadily diminishing role. This does not mean that printed books, serials, and other traditional library materials will not be important tools for our society. It does mean that electronic information will become as important. If librarians do not incorporate electronic access to information, a substantial number of current users will obtain their information from other sources. It also means that the expanding information age will require new roles for librarians and that we must begin to anticipate these and to plan for our changing future.

OPPORTUNITIES AND THREATS

The information revolution is here. It will continue to change our society profoundly. The use of information technology can enhance or diminish the quality of our lives because people can be enfranchised or disenfranchised depending upon their ability to gain access to information. We are in a transition period, wavering between increased opportunities resulting from the information age and the threat of a more controlled society with less access to information and reduced freedoms. Libraries and their networks have a responsibility to ensure access to information. This can best be achieved by joining together in the development of a national information network.

A NATIONAL LIBRARY INFORMATION NETWORK

Electronic information will expand, supplement, and replace certain printed information collected by academic libraries. Scientists and scholars in growing numbers are using electronic networks to use and share information. BITNET is currently being used by approximately 350 member institutions to communicate scholarly and administrative data. OCLC alone connects over 6,000 libraries, of which more than 1,200 are academic and research libraries and another 300 in junior and community colleges. As scientists, engineers, and some humanists and social scientists attempt to create a national network for re-

search communications through networks like NSFnet and BITNET, we need to look at the enormous networks that connect libraries to see if a new and wider approach to academic communication can be achieved. OCLC is currently engaged in discussions with EDUCOM about its plans for the management, operation, and information services of BITNET in an effort to coordinate and impact on a future academic network. Librarians should encourage and financially support efforts to create a national information network.

In addition to the computerized networks that connect libraries around the globe, librarians bring highly developed skills to organizing, indexing, and accessing information. Library schools and bibliographic networks are engaged in substantial research to improve these skills for the new information age. National and international standards have been created to describe and index information. If we could combine our skills and commitment, bibliographic utilities, and other national and local information systems to create a national information network, electronic information could be shared between libraries, scholars, and scientists. Libraries will need to reutilize and strengthen staffs to provide sophisticated electronic information access and instruction. A national effort to build a scholarly communications network will need to provide support to do this. This response to electronic information could transform scholarly communications, put libraries and librarians in the forefront of accessing electronic information, and move libraries firmly into the second stage of the adoption of technology described earlier.

A NEW COMMITMENT TO LIBRARY COOPERATION

To build a national information network would require a renewed commitment to library cooperation as well as financial support from libraries and their parent institutions. Academic and research libraries would need a joint national campaign to explain the challenges and opportunities of electronic information and networking to their parent institutions, computing centers, and funding agencies, and they would need to support the bibliographic utilities in their effort to create a national network for scholarly communications.

In order to foster and develop a scholarly communications network and new, unique information services, academic and research librarians must investigate a number of possible cooperative activities. A database of current unpublished and ongoing research accessible through the bibliographic utilities would provide a powerful new tool for scholarship. If we were able to build a national database of cataloging records for published material, surely a similar database of current scholarly research could also be built in conjunction with scholars and expert systems. We could also investigate whether a change in the scholarly publishing process could follow from a national current research database.

Future enhancements to library services will require much more research on the use, access, and impact of electronic information and the role of expert systems. The Council on Library Resources joint grant to the University of Michigan School of Information and Library Studies and OCLC to study the means of increasing accessibility to Library of Congress Subject Headings in online bibliographic systems is an example of how libraries can not only improve access but also find new ways of using technology to reduce local cataloging and maintenance activities. Libraries should encourage this type of research.

It is now time to begin strategic planning for a significantly different future. Joined together in large membership organizations, such as OCLC with established research facilities and technological knowledge, librarians have an opportunity to become change agents in society and to play a role in reshaping the communications of scholarship and contributing to the free flow of information. If we do not take an active role in shaping access to electronic information, then it is highly likely that the growth of electronic information and telecommunications networks for information transfer will diminish the role of the library and librarians in the dissemination of information. The effect on the democratization of information could well be negative.

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The library's function is to promote the effective use of graphic materials. If a student does not understand the meaning of such symbols, if he cannot read rapidly and understandingly, he cannot profit fully from the special means of education for which the library has been established and is maintained to provide.

—Louis R. Wilson, "The Library's Role in College Instruction" (March 1944), p.133

Information Support for Academic Administrators: A New Role for the Library

Peter G. Watson and Rebecca A. Boone

The concept of a direct information support service for academic administrators by librarians is presented. The costs and benefits of such an undertaking are discussed, and the results of a test are reported, together with the model and rationale for a service. The test supported the hypothesis that demand for this type of service does exist, once administrators are apprised of the possibility for it, and that they are highly pleased with the results and with the librarians for offering it. The paper concludes with a presentation of issues in library service, technique, and philosophy that were identified during the test.

Several recent authors, most notably Charles Martell in *The Client-Centered Academic Library*,[1] have explored the concept that the actual needs of user groups could influence the design and organization of library services much more than they have in the past. One obvious example is the fee-based services designed as a response to pressures from noninstitutional groups (especially business and industry) for improved access to their local academic library. Another is the emergence of document delivery systems on campus, usually directed toward faculty and organized research teams. This paper discusses a further example of client-centered service in the college or university library, namely, a library/information support service for administrators. Our working hypothesis is that it would be a benefit to both the academic library and its parent institution for the library to provide a specialized, direct, information support service to identified senior administrators of the college or university. We will present a rationale and a model for such a service and identify some of the benefits, costs, and major procedural, service, administrative, and professional issues involved.

Online and manual literature searches produced only one document squarely on this topic: a SUNY–Buffalo library proposal (1973) that was not implemented.[2] The following exposition, therefore, stems largely from our discussions with administrators, our experience as library public service managers, and an in situ test of the basic concept.

RATIONALE FOR ESTABLISHING A SERVICE

A small test by one particular library is useful but may not by itself provide the necessary professional foundation that would enable other libraries to develop this new concept in their own operating

Peter G. Watson is University Librarian, Idaho State University, Pocatello, Idaho, 83209-0009. Rebecca A. Boone is Associate Dean at the College of Arts and Sciences, University of Arizona, Tucson 85721 (on leave, 1988–89, as Administrative Intern, Arizona Board of Regents, Phoenix, Arizona 85012). *The authors wish to thank Judith A. Sessions, former university librarian, and Frederick W. Ryan, former deputy university librarian, California State University–Chico, for their administrative and professional support of the test.*

environments. In this section, therefore, we attempt to provide a wider professional framework for having the academic library serve administrators, a rationale that has general applicability.

1. As part of the broad-based movement of the modern profession of academic librarianship toward an active service posture, librarians are looking afresh at the needs of their client groups and devising strategies and products to meet those needs.

Like many service institutions, the library is being modernized while its essential continuity of function and purpose is being maintained. Banks, for example, have recently developed a whole series of new services segmented toward specific groups. So, too, have academic libraries begun to provide students and faculty with such innovations as computerized literature searching, bibliographic instruction, fee-based information services, and document delivery. Academic librarians should give serious thought to extending this approach to another group that also has demonstrable need for useful, effective information support: namely, the campus administration.

2. Campus administrators are almost exclusively drawn from the teaching and research faculty ranks and are not fully aware of the library's potential for supporting administrative work.

The faculty, including those who move into academic administration, are the "core group" in the management of any college or university.[3] In terms of their need for, and use of, information services, the faculty can occupy a surprisingly large number of different roles, of which this paper examines just one, that of academic administrator.[4]

Even though academic administrators are not actively teaching, they retain the typical faculty relationship with the library, its resources, staff, and services: namely, a solitary interaction between themselves and the materials that embody their area of research.[5,6] Their view of libraries and librarians has not changed as their administrative responsibilities (which may even include the library) have evolved. What this will often mean, in practical terms, is that the administrator still knows and uses libraries in only one way—by paying a personal visit, consulting a few tried and trusted sources, browsing the stacks, and in general doing everything directly, for oneself, by oneself. After all, as a scholar, one is expected to *know* the library, and not to have to ask for assistance.

The academic disciplines are the basis for the organization and services of academic libraries and for the faculty member's interaction with them. But the disciplines do not constitute an easy key for addressing administrative concerns such as how other universities are responding to political pressure to change the balance between teaching and research functions or what faculty salary and benefit structures are used in peer institutions. Administrators are seldom seeking pure research or a sequence of analytical or interpretive articles in periodicals; they are much more likely to require applied research, current policies and procedures from other institutions, and raw data brought together into a useful whole.

In addition, administrators will often simply lack the time to walk over to the library and embark on a lengthy search for information. If the scholar turned administrator cannot find the needed information fairly quickly in person, or at most with an occasional question to a reference librarian, the information is probably not going to be pursued within the library. The library as an information system quickly becomes functionally unusable; administrators have simply accepted the idea that the library (as they conceive it) is not a tool used for administrative purposes.

3. Those who administer the complex corporate structure of the modern college or university need and deserve more active, relevant, information service support from the library, and the library is now much better equipped than, say, fifteen years ago, to respond vigorously to such a challenge.

Academic administration has become much more information-dependent for the fulfillment of many standard administrative tasks (planning, coordinating,

evaluating, decision making, etc.), while concurrently the information service capabilities of academic libraries have expanded enormously. For our present purposes this is most strikingly evident in two broad areas—the computerized searching of bibliographic, numeric, and even full-text databases and the electronic tying together of the nation's system of interlibrary cooperation. Other advances in modern librarianship also contribute, such as the advent of the online catalog, enabling access to a library's holdings from home or office, not merely from within the library walls.

4. As an institution, the academic library is under considerable strain and requires its own well-informed support base on campus.

Partly due to the very success of their new, electronically based systems for retrieval and access, many academic libraries are experiencing a surge in the amount and intensity of demand. At the same time, they are constrained to operate with budgets that are functionally much tighter than a decade ago. Higher-than-average inflation of book and journal prices, higher salaries, the need for large-scale automation—these and other unavoidable cost components all take their slice of the budget, often leaving little true discretionary money in the hands of the library director.

This part of the rationale sounds like a reason *not* to start a new service, rather than the reverse. But the library is in acute competition with other campus agencies for dollars and (equally important) for administrative support. Its role as a necessary service for most faculty and students does not give it a built-in claim on the attention of administrators. Provision of a direct, personal service to those administrators might enlarge and enhance the library's institutional position and role in their minds, at the same time increasing its relevance both to themselves and to the college or university as a whole.

COSTS AND BENEFITS

Costs

Obviously there will be costs associated with any new service, especially in libraries that already feel stretched just to stay in control of their existing workload.

Regardless of size or type of library, the main cost components will include:

1. Librarian time
2. Support staff time
3. Online searching
4. Document procurement (copying, ILL, mail, etc.)
5. Supplies and other miscellaneous operating expenses

Additionally some libraries will need to account for:

6. Opportunity cost (of resources diverted from other tasks)
7. Overhead

The California State University–Chico (CSU–Chico) test (described below) was performed at relatively low cost. Of the four types of direct costs that could be identified in advance (computer searching, photocopying, interlibrary loan charges, and mail and long-distance telephone), only the first two materialized during the test: computer searching averaged $12.44, and photocopying averaged $3. Total staff time per question was about one hour (roughly estimated as forty-five minutes of librarian time, fifteen minutes of support staff time). Librarian time was calculated from initial consultation to presentation of results. The time taken to explain the purpose and scope of the test on the initial visit is not included in this, because it is dependent upon the interests of both the administrator and the librarian.

We estimate that the inclusion of labor costs would add $15–20 to the transaction cost, at current rates for an upper-range librarian and a middle-range paraprofessional.

Costs for supplies and other miscellaneous operating needs were negligible. Overhead and opportunity costs were not computed but would be institution-specific.

Within this framework, the total identifiable cost of providing the service appears to be about $30–35 per question—probably very close to the cost of other types of in-depth library service offered on a limited scale.

Benefits

In assessing what benefits there are and could be, we believe it is important to recognize (a) that this is a service whose benefits should be viewed strategically rather than tactically; (b) that the actual costs may not be very great overall, and the benefits will likely be substantial; therefore (c) that in terms not just of cost or benefit, but of the cost-benefit relationship, this may turn out to be one of the most valuable initiatives the academic library could decide to undertake. Thus the discussion of costs and benefits very quickly becomes a reassessment of library priorities.

Benefits to the Institution

Better informed administrators. Suppose that administrators *can* use the library effectively: in most cases, they would rather not have to do this, and a librarian could probably do it better. At the very least, therefore, the benefit here is precious time saved for the administrator. More often, we believe, having the library undertake this service will provide an improved information flow to administrators, as well as saving them time.

Better administrative performance. Among the important functions that can be assisted by a better foundation of information are planning; decision making; establishment of mission, goals, and policies; program evaluation; use of funds; compliance with legislation; development of grant proposals, etc.

We emphasize that a library support service for administrators is by no means a panacea; it will not create good administration where such does not exist, any more than solid information support for scholarship will create good scholarship—but, as is true with scholarship, there will be a better chance of good performance if there is an improved level of information support. Erroneous or unproductive courses of action can be avoided, and particularly suitable or relevant solutions from outside can be more speedily evaluated and adopted. The universally shared aim of achieving the best administrative practice can be brought substantially closer to realization.

More effective fulfillment of the institution's academic mission. Although the institutional mission statement is usually a broad, sweeping generalization of intent, it does embody the college or university's definition of itself. Better informed administrators can participate more fully in the institution's various activities, leading to a more comprehensive realization of the mission statement. They can, for example, uphold the institution's position more effectively in outside forums if they are given the appropriate facts, figures, or analyses in advance.

At the institutional level, the teaching, research, community service, and other components of academic life blend together. It is our belief that, in time, the existence of such a service will be assumed, and its regular use taken for granted, and that this in turn will contribute strongly to a greater cohesiveness in the college or university's response to mission-related matters.

Better administration of the library by college or university officers. Closer involvement by senior administrators in the life of the library will enhance their awareness of its needs, goals, and problems.

Along with this will come an awareness of the overall interrelationship of various campus information services (usually the library, computer center, and instructional media)—thus giving fresh impetus to increased administrative coordination among them. This too can be useful to the library in mutually clarifying roles and missions with those agencies, to which any academic library is nowadays inextricably linked in the provision of information service to the institution.

Benefits to the Library

A more informed appreciation by senior campus administrators of the professional role and skills of the librarian as an information specialist. One result should be a better administrative understanding of the rigor, imagination, scholarship, logic, experience, judgment, and knowledge of the field that the good public service librarian brings to bear upon the complicated, ever-changing modern world of information production and dissemination. This could be invaluable, for example,

when librarians are reviewed for retention, tenure, promotion, merit awards, sabbaticals, etc. Unobtrusively assisting administrators to experience, or "get a handle on" the modern academic library, will lead to administrators who are much better informed about the library, who can empathize more with the dynamics of library management, and who henceforth can speak with more authority in campus or external discussions about the importance of information, libraries, resources, and even national agencies such as LC, OCLC, and CRL. This is to the library's advantage.

A better image for the library and thus an improved climate of support for the library. Administrators want very much to be proud of "their" library, and usually are. The high immediate impact of a direct support service from the library will give them an additional reason to be so. Administrators will welcome library initiatives that fit with their concepts of the institution's goals and needs. Among one administrator's initial reactions to the pilot test was the interesting observation that he appreciated this effort to utilize the library "to the full"—even though, as far as we know, the idea of the library doing this had never before occurred to him.

As regards actual procurement of funds, just starting to provide administrators with information support may well raise the possibility of new sources of funding for the service itself, such as an increase in the library budget to enable the service to continue. Or it could help foster an improved climate of support for some quite different long-term needs of the library, such as a new building, or an across-the-board increase in the materials budget.

Increased utilization of the librarian's time on clearly professional tasks, assuming that any tasks that must be deferred, transferred, or abandoned, will be 'low end' tasks of marginal professional content, merely things that the librarian was doing because it was felt someone had to do them.

Enhanced self-image of librarians as professionals. We believe that *any* time librarians work directly with senior campus administrators, they will perceive themselves as contributing significantly to the life of the institution and should experience higher self-esteem thereby. A parallel to this is the rise in professional self-esteem that took place among academic reference librarians all across the land ten to twelve years ago as they assumed the role of computerized search specialists and began to work more directly with the faculty's information needs.

MODEL OF A LIBRARY/ INFORMATION SUPPORT SERVICE FOR ADMINISTRATORS

The basis for the series of steps that comprise this model is a test conducted by one of the authors during the 1986–87 academic year at CSU–Chico.

1. The library administration first agrees to devote some of its personnel and other resources to the direct, immediate support of information requests made by senior academic administrators.

2. The library decides upon at least one librarian who will perform the initial service. The persons selected must be:

   (a) equipped with up-to-date skills in general reference service, including the ability to perform computerized literature searches on a broad range of topics, especially higher education;

   (b) well respected outside the library and fairly senior in terms of rank and service on the campus;

   (c) able to cultivate a continuing confidential relationship with campus administrators;

   (d) able to maintain flexibility in their schedules.

3. The library director sends a letter to, or meets personally with, a small number of senior administrators, introducing them to the general idea and inviting them to participate. It is advisable also to emphasize that the library realizes that each person's information needs are private, and that confidentiality will be closely guarded. We suggest a small group of administrators to begin, so that the library can acquaint itself with the dynamics of such a venture before any large-scale public commitment is made, and we suggest senior administrators simply in recognition of good campus politics and greatest unmet need.

4. The participating librarian is then assigned to cover four to six administrators, no more. A general allocation of time in which to perform the service should be agreed within the library in advance. About two hours per week is suggested as an average.

5. The librarian visits the offices of those administrators in her or his group, explains the concept and the general procedures, and, as soon as the administrator begins to respond, takes notes with old-fashioned paper and pencil. Tape recorders are not recommended—they will inhibit free-ranging conversation, which is one of the most valuable communication devices in operating this type of a service. The Chico test revealed at an early stage the value of listening for unstated, implied needs or concerns, in addition to the overt topic of the information request. Any time administrators talk more than briefly about a work-related matter, it is likely that they are thinking through a current problem or situation (perhaps an issue from an immediately preceding meeting) and that some ingenious information support, provided before it was even formally requested, would be a welcome surprise. The librarian's unstated approach should not be "What is the question?" but "What's on your mind?" It is also worth recognizing from the outset that busy administrators are not going to consent to be served if there is the penalty of filling out a form, so no effort should be expended in designing one, nor should the client be constrained to deal with existing library forms (e.g., for a computerized search, or for microform copying). This is indeed a type of service which, if it is to stand any chance of succeeding, must go significantly beyond the traditional modus operandi in which the librarian starts users off, then leaves them to do the rest. The librarian has to be committed first and foremost to delivering a product that is *usable* and must therefore be willing to remain flexible enough to employ procedures that will contribute to this end: to follow the opening offer of service with "Sorry, but the library does not do (has never done) that" obviously will not gain the library much credit with senior administrators.

6. The librarian carries out the search. This will normally involve analyzing the question (including checking the meaning of terms where necessary); identifying sources; performing a computerized literature search if appropriate; and obtaining selected documents from the library's collections. High priority should be given to making photocopies for the administrator to retain, where allowed and appropriate, and to requesting other needed documents from a remote source (via ILL, or, more innovatively, via phone to a human source).

In the pilot test, responses to the request usually took one of two forms:

1. photocopied pages of the needed material with pertinent sections marked with a highlight pen, or

2. a specially marked printout from a computerized search, inviting the administrator to check off any citations that looked interesting, and returning the list to the library so document procurement could begin.

After two months, the evidence began to suggest that the latter was not, by itself, sufficient, as no administrators returned their list for document procurement to begin, although in at least some cases, the extensive ERIC abstracts were sufficient.

The main reason for not immediately proceeding to search out and send the documents cited in a computer search was the newness of the venture, and the librarian's initial unfamiliarity about which of the citations would be highly pertinent to the need, and which would not. As a longer cooperative relationship developed, both the administrators and the librarian came to expect that the latter would routinely employ professional judgment and select the most useful material without very much risk of being wildly wrong or of raising concerns about exercising censorship.

Incidentally, the CSU–Chico library does not have a formal document delivery service, but it was apparent from the outset that for the test to have any real utility, an ad hoc process of document delivery would have to be built in. The only alternative would have been to adopt the time-honored library posture of assuming that

the users would walk over to the library, find for themselves any materials they wanted, and be sure to bring their library cards, and their wallets (or an account number). This was unacceptable, for the reasons discussed earlier.

7. For purposes of continuity (e.g., possible follow-up of questions or billing of charges), as well as for program assessment, basic records are kept by the librarian. Similar in scope and level to records kept for other types of personalized library service such as ILL or computerized literature searching, these should show the nature of the question, date received, date needed, sources consulted, time spent, and levels of personnel involved. It is desirable for entries in the log to be arranged in simple numerical order. The designated librarian can maintain his or her own cross-index showing which administrators asked which questions. An example, using a log sheet for reference transactions derived from California's North State Cooperative Library System, is shown as appendix A. Note that this is a log of the search and retrieval processes only, and does not reflect total project activity.

8. After a suitable period, say one academic year, a brief evaluation is performed. The reason to keep it brief, resisting the temptation to ask all conceivable questions that it might be useful to have answered, is that busy administrators generally do not respond well to long questionnaires. The cover letter needs to be tactfully phrased as a request for assistance and should express appreciation for the respondent's time, etc.

Reactions to the Test

The details of the test results have been reported elsewhere.[7] There was nothing very remarkable or innovative about the actual searching. The librarian merely did for the requesters what he would have done for himself, had the questions been his own: find the information. He searched through some secondary sources, identified some relevant-looking primary sources, and obtained working copies thereof. Incidentally, we found it significant that in not one case out of the fifteen undertaken was the end result a book checked out of the library.

We feel it important to convey to library managers and administrators the warmth and enthusiasm with which the idea, and the test itself, were received. In a word, the recipients were *ecstatic* (their term, on more than one occasion). Within an hour of receiving the announcement, the university president was on the phone; then the vice-provost submitted a question. The provost immediately wrote a highly laudatory note praising the general concept, and later sent another one expressing appreciation for information delivered. The vice-president for student affairs said she had several likely topics we could utilize. The president, after using the information from his first request in a public debate that was locally reported and broadcast, then presented some other questions. In a little less than two semesters, fifteen questions were handled from four administrators of the six originally approached, and from two of their principal subordinates.

The provost, into whose area of reporting responsibility the library falls, later expressed specific interest in exploring the potential of the library as an administrative support tool, and asked the librarian to give a presentation about this (as yet nonexistent) service to the dean's council. He voiced his concern that administration was often performed on a too-narrow base of information, and that the library might assist not only in its own right but also as a coordinating agency for improving administrative access to the myriad other sources which we all know exist on campus—enrollment data, planning information, institutional research findings, etc. One generally didn't go over to the library with these administrative information needs, he added. First, one didn't have the time, and second, one was reluctant to put more work on the librarians. The test demonstrated that this reaction is fairly typical, and perfectly sensible, from a senior academic administrator.

ISSUES

Any library embarking on this type of service can expect many new and fascinat-

ing issues of library service to be raised, and to be debated con brio among the librarians. The issues will span the range from philosophical to technological, from organizational to logistical. Among the more substantial ones unearthed by our initial test are the following:

1. *The library's role.* Should the library be providing this level of service? Apart from the practical considerations (the burden of time and expense) should we not also ask whether the role of personal information specialist is one that the librarian can or should play? Will not administrators, like other clientele such as students, be better served by seeking their own information in their own way, without a third party, which inevitably leads to less than perfect transmission and communication?

This issue has a certain theoretical validity, but in practice most people simply cannot be, nor are they willing to be, their own information specialists. Doubtless there will always be those few who can and do perform this role for themselves, but the vast majority of scholarly and professional people are more in need of the highest available level of information support than ever before. If there is some loss in information because of transmission through an intermediary, it appears to us to be minor and easily surmountable, given high-quality performance by the information professional.

2. *Time per question.* Can this level of service be sustained and built into normal library operations? The time commitment required for each question is substantial; forty-five to sixty minutes seems to be usual, and two hours should be expected occasionally. There will be only a relatively small number of questions submitted in any given month, so that with some rescheduling of regular tasks the overall burden on the librarian is not drastic. Also, one might ask, "What are the professional librarians doing with their time that can be shown to have equal benefits for the library? Can some tasks be transferred to a competent library assistant? To a secretary or even a student assistant?"

3. *Sources.* Among the more crucial library resources for support of such a service are government publications, online searches, printed reference sources, college catalogs, university archives, and state and federal laws and regulations governing higher education. One must, in addition, be willing to go a little further afield. This could include contacting other people on campus or in the local community; calling other colleges and universities for comparable data and asking those institutions to send by express mail some internal document, charged to the receiving library's account; and/or signing on to BITNET or some equivalent electronic network for the academic community.

4. *Continuity of personnel.* Given the shorthand with which most people speak (and many of these information requests will come via the spoken word), it is imperative to avoid forcing administrators to deal with a new person for every information request they may have. A long-term relationship is clearly called for, allowing the librarian the opportunity to learn the terms and concepts of the client and to understand thoroughly that person's typical information needs as well as the kind and level of response that will meet them. This implies that each librarian should work only with a small number of administrators.

5. *Confidentiality.* This is an absolutely critical issue because of the multiplicity of roles both parties could have. The kind of confidentiality issues that surface will tend to be different from standard "reference transaction" confidentiality which bears upon any user's right to privacy; these issues will bear more upon internal administrative confidentiality. We suggest that each library use existing codes of library professional ethics[8] and, in addition, develop clear local guidelines for handling issues of administrative confidentiality.

6. *Sensing the real need.* Apart from the overt request, it will often be possible, just by listening carefully to what a time-pressed administrator talks about, to pick up other leads that might be the subject of the librarian's subsequent efforts. For example, in a meeting in which the administrator conveys a straightforward request for information about enrollment trends,

she or he might keep coming back to the thought that more campus coordination of information resources is needed, and that the campus' institutional research results are not being disseminated satisfactorily to the deans or department chairs. Follow-up recommendations from the librarian on ways to strengthen the institution's information dissemination channels could be extremely helpful. Taking notes on the administrator's whole response, not merely on the overt request for information, is of inestimable value.

7. *Type of questions.* Will the questions that can effectively be handled by such a service prove to be self-selecting? In the pilot project, they were almost all at one end of the spectrum—the long-term, complex issue, demanding study and eventual resolution in the form of a new campus position, regulation, or policy. Conspicuous by its absence was the short-term information need, where certain key facts and figures are required to meet a deadline "this afternoon." In terms of an acceptable response time, "three weeks" was frequent during this test; "three hours" was never encountered. Is such self-selection occurring because of the administrator's prior conception of what libraries and librarians are capable of, or "good for?" Is it because the implicit orientation of the Chico test created analogies with scholarly information-seeking (i.e., the research model)?

One perfectly legitimate reason why administrators do not appear to need the library to handle the short-deadline questions is that they, or their immediate support staff, can quickly find the answers themselves. Every office engaged in academic administration keeps a set of indispensable tools of the trade on the shelf; these are, in effect, the ready-reference sources for higher education administration, and will provide answers to a large percentage of the daily need for names, numbers, facts and figures.

8. *Is such service size-dependent*? That is, will it prove unworkable on large campuses, the one having thirty or forty thousand students? Assuming that the librarians performing the service can only succeed by limiting their spans of service to a few administrators, and assuming also that the number of available librarians is fairly small, is this tantamount to saying that a support service for academic administrators is feasible only on a small, or at most a medium-sized, campus?

Obviously we may anticipate that the larger the campus, the larger (in most cases) the library and staff. But we know too that beyond certain basic minima, library strength does not steadily increase along with geometric or even exponential increases in the size of the student or administrator population. Those who study physician or attorney distribution speak in terms of there being one physician or attorney for every x thousand people in a given area—so far, there appears to be no real discussion of, much less agreement on, the need for one librarian per x faculty or administrators, although ACRL's Formula B for college libraries[3] does endeavor to link the size of a library's staff to the size of the student FTE and of the collection.

One approach would be to extend the number of administrators each librarian covers and provide assistance for, or diversion of, some of the other tasks for which the librarian is responsible (in other words, look for ways to cut down the amount of time a librarian spends on marginally professional tasks). Another approach would be to limit arbitrarily the other variable, namely the number of administrators who are considered eligible. Instead of extending the service to the level of department chairs, stop at deans—a tricky proposition, given the indications of high value that those who have been exposed to this type of intensive personal information support place upon it. The library is in effect saying "we only have a staff large enough to serve *this many* administrators." But it may make the difference between starting a service and not starting one.

CONCLUSION

At the beginning of this paper, we hypothesized that a client-centered library/information support service for administrators would provide benefits to both the academic library and its parent institution. We believe that this working hypothesis

was amply validated by the test and that similar results could be expected by most academic libraries embarking upon such a service. For the amount of time, money, and effort expended, the test was an unqualified success at CSU–Chico. It seems to have provided useful information to top administrators, to have helped specifically in positively influencing administrators' perceptions about the library and the role of the librarian, and to have contributed to improving the long-term climate of support for the library. We believe that further research and testing by other librarians could help answer unresolved questions such as:

- Assuming that the library can provide such a service, how far through the administrative structure should that service extend, and what are the limits (if any) to the librarian's ability to adapt the role of the library to include that of information support agency for academic administrators?
- What are the major determinants of that role: librarian's time? library funding? library service philosophy? administrators' expectations of library and librarians' capabilities?
- Can such a service work at a very large university or college, which may have a very different ratio of administrators to librarians than its smaller neighbor?
- On what types of information sources do academic administrators rely most heavily in their work? What precisely is the role of the "working collection"?
- Can or should academic librarians add a regular alerting service ("SDI") to the answering of one-time questions, as is often done to handle the permanent or long-term interests of researchers?

For the reasons discussed throughout this paper, we would strongly encourage other academic librarians to begin an administrative support service, at least in a test mode with a view to creating a permanent service for campus administrators.

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2. Mary B. Cassata and Roger C. Palmer, *Proposal for an Information Service for University Administrators: Office of Specialized Services—Implementation* (SUNY–Buffalo Libraries, 1973). ED 077 540.
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4. There are at least eight different roles that a faculty member may adopt, all of which arguably have different information needs and different information-seeking patterns: teacher, researcher, leader (i.e., manager) of a research team, student advisor, administrator, consultant, faculty employee (with faculty committee assignments), and private citizen (the academic library often functions as their public library).
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9. "Standards for College Libraries, 1985." Prepared by the College Library Standards Committee of ACRL. *College & Research Libraries News* 46:247 (May 1985).

APPENDIX A: SAMPLE LOG SHEET

PW = Peter Watson
Libn = Other Librarian
LA = Library Assistant
SA = Student Assistant

(Continued on next page)

APPENDIX 1. Sample Log-Sheet Abbreviations: PW = Peter Watson LA = Library Assistant
Libn = Other Librarian SA = Student Assistant

LIBRARY REQUEST NUMBER	DATE RECD	DEAD LINE	SUBJECT OF THE REQUEST	DATE ANSWD	SOURCE OF ANSWER FOR REQUEST	TIME SPENT Mins.		SENT TO AND DATE OR ADDITIONAL COMMENTS
	1986		Salary & compensation ranges & criteria -		Publications of the Bureau	90	PW	Searching
1.	9/26	10/3	selected professions	9/30	of Labor Stats	30		photocopying
						30	PW	Checking code & catalogs
2.	9/30	10/24	Calif. Code requirements for CSU graduation	10/20	CSU Campus catalogs	90	SA	look-up & copy
			Textbooks in field of			10	Libn.	Annotated
3.	10/16	-	Business Law	10/23	BIP Online; ERIC	10	PW	print-out sent
			Textbooks in field of			10	Libn.	Annotated
4.	10/16	-	International Law	10/23	BIP Online; ERIC	10	PW	print-out sent
			Textbooks in field of			10	Libn.	Annotated
5.	10/16	-	Corporation Law	10/23	BIP Online; ERIC	10	PW	print-out sent
			Undergrad. programs			10	Libn.	Annotated
6.	10/16	-	in Polymer Sci/Tech.	10/23	ERIC	10	PW	print-out sent
						10	PW	Sent annotated
			Dissemination of				LA	print-out & 2 copies
7.	10/16	-	institutional research	10/27	ERIC	20	SA	from MF
						10	PW	Sent annotated
			Alternatives to the					print-out
8.	10/16	-	3-unit course	10/24	ERIC	20		4 articles copied
			Academic/Corporate relationships - public			15	PW	87 citations;
9.	10/16	-	universities	12/15	ERIC			patron wanted all
						10	PW	Sent annotated
			Summer programs for					print-outs
10.	11/4	12/5	native Am. students	11/11	ERIC	10	SA	2 articles copied
			Methodology for studying			30	PW	Annotated
11.	11/4	12/5	special students	11/14	ERIC			print-out sent
			Microcomputer use by			10	PW	Annotated
12.	11/4	-	Stud. Aff. professionals	11/21	ERIC			print-out sent
	1987					10	LA	Retrieval
			CSU Chico's first		University archives	20	PW	(adding monthly
13.	3/30	4/7	budget (for centennial)	4/3	1908/09 first available year			accounts!) telephoned

The Birth of a Network: The Brazilian Struggle

Janet Frederick

A national plan for university libraries in Brazil recommends a center for cooperative cataloging, a standard format for computerized cataloging, and development of an online network of libraries. Problems associated with online network implementation in Brazil, such as computer import restrictions, changes in government agencies, and an historical lack of resource sharing, are discussed. The prognosis is positive; the need and motivation are strong.

Librarians in Brazil are seeking to link university libraries via a cooperative cataloging network. During a five-month visit there spent attending a national conference, visiting libraries, and, most importantly, talking to librarians at the forefront of technological change, I learned of the National Plan for University Libraries and of progress toward its implementation.[1] These librarians described the history of computers in Brazil, library automation development, the politics of change, and the attitudes and ideals of those involved.[2] Although progress toward building a network continues to be a struggle, expertise and the desire to succeed are evident. Brazil's economic situation is but one hurdle; a new spirit of cooperation will be necessary to ensure better service and further technological advances.

Librarians in Brazil seek technological improvements to upgrade service and bibliographic control and to increase cooperation. In addition, last year the Ministry of Education and Culture approved the creation of a national center for a cooperative cataloging network and the adoption of a standardized format for machine-readable cataloging. In some ways the progress toward a shared cataloging network parallels that of the United States; in many other ways the Brazilian experience is quite different. Attaining the lofty goal of linking libraries throughout Brazil through technological means, thereby improving cooperation and resource sharing, will not be easy. Because their country is also engaged in a struggle for more rapid economic development, librarians face an uphill battle. Still, the desire to succeed is strong, and many dedicated individuals are working hard to realize this dream.

THE SETTING

Brazil is the world's fifth largest country in area and the sixth largest in population (140 million people). The language is Portuguese and Catholicism is the predominant religion. Due to the massive importation of Africans for slave labor and the large influx of European and Japanese immigrants, however, Brazil's cultures and customs are diverse.

Brazil is largely urban. The two largest cities, Rio de Janeiro and São Paulo, have around twelve and fifteen million inhabitants respectively. Brazil is industrializing rapidly; one of the largest industries is automobile manufacturing. Volkswagen do Brasil, for example, exports parts and cars

Janet Frederick is Head, Bibliographic Database Management Department, General Library, University of New Mexico, Albuquerque, New Mexico 87131.

to countries throughout the world, including the United States. Brazil's gross national product ranks among the top ten in the world.

In contrast to the modern cities of Brazil with their multinational corporations and sprawling factories, technological advancement has lagged in such areas as the information industry. One reason for slow growth in computerization has been the *Informática* legislation that brought coordination of research, development, and production of electronic components under government control and established a protected microcomputer market.[3]

COMPUTERS IN BRAZIL

Computers made their debut in the 1950s as Brazilian industry modernized rapidly. The first computers, principally IBM and Burroughs mainframes, were imported. By the 1960s Brazilian universities were training engineers in electronics and data processing. Specialists went to the United States or Europe for advanced training and many were frustrated on their return by the absence of a high technology industry in Brazil. According to Peter Evans, "Modernization of Brazilian higher education and of the labor market generated a group of 'frustrated nationalist technicians' with strong personal and ideological interests in the creation of a local computer industry."[4]

The 1970s saw advances in the computer area, and from 1969 to 1974 hardware imports increased by 600 percent.[5] Brazil saw the need to develop its own computer industry, and in 1972 the government created CAPRE, the Commission for the Coordination of Electronic Processing Activities. CAPRE became a "powerful regulatory organ capable of generating an industrial policy for the Brazilian industry."[6] After a challenge to Brazil's import restrictions by multinational computer companies, the government saw the need for a more decisive policy if it were to succeed in this highly competitive field.

In 1979, a stronger agency was created: the Special Informatics Secretariat (SEI). SEI became "an aggressive defender of the nationalist line."[7] By 1983, local computer companies accounted for almost half the market, and with the advent of the microcomputer, the industry grew even faster. Brazil was able to change its posture from relying on imported computers to importing components and creating domestic products.

The informatics debate continues. The dilemma hinges on the lack of resources to address pressing problems of illiteracy, inadequate housing, and unemployment. Still, the country cannot afford to be without modern technology. As Cavan McCarthy observes, automated information systems "are not only products of industrialised societies, they are also tools which in themselves promote industrialisation."[8] Moreover, Brazilian computers often cost two to three times as much as the U.S. equivalents, and complications abound due to the independent development of systems and software and the lack of standards and guidelines. Victor Rosenberg notes that although the government of a developing country must appear independent of more powerful countries, the truth is that countries are becoming more interdependent in areas of technology.[9] Thus, changes in government agencies, industries, and import laws related to automation and information science have had a negative impact on library automation.

COMPUTERS IN LIBRARIES

Development of automated library systems has occurred independently, in most cases without guidelines or standards. In some instances institutions automated library functions simply because time was available on the local mainframe. McCarthy's study of library automation in Brazil (conducted between 1980 and 1984) included direct information on thirty-one institutions and indirect data on twelve others that reportedly had automated some functions.[10] He found that 40 percent of the institutions surveyed acknowledged having been influenced by another system; another 40 percent developed their systems independently. Import restrictions have certainly interfered with installations of turnkey systems or even widespread use of software programs developed for library operations. However,

there are other factors that contribute to isolated development of automated library systems.

Thirty-one schools offer bachelor's degrees in library science; five, master's degrees; and one, the University of Brasilia, a doctoral degree. Because of the proliferation of library science programs, most librarians can and do stay in one place throughout their careers. Communication and exchange of ideas between librarians have been difficult in the past. Distances are great between metropolitan areas in Brazil, and there have been few national conferences. Until the present decade, very little knowledge regarding library automation was shared. All this is changing.

In 1980 the Brazilian Institute for Information in Science and Technology (IBICT), the body responsible for assigning ISSNs and publishing the national union catalog of serials, was charged with coordinating library automation activities in the country. In 1981, the Second Seminar on University Libraries included a symposium on automated systems, and in 1984 two national seminars were devoted to library automation.

In early 1987 I visited fifteen libraries throughout Brazil and talked with numerous librarians. I was able to learn of problems with developing and continuing automated library systems. Many of the larger university libraries have automated at least cataloging activities, and special libraries have automated other functions as well. For the most part, only special libraries can afford to use online retrieval systems such as Dialog. Telecommunication capability has only recently been available in Brazil, since the introduction of INTERDATA (international network) in 1982 and RENPAC (domestic network) in 1984.

One of the first (1972) and most impressive systems is that of the Data Processing Center of the Federal Senate, PRODASEN, which includes SCION, the National Congressional Information System. SCION contains a bibliographic database (BIPE, *Bibliotecas e Periódicos*), an authority file (AUTR) for personal and corporate names, and a controlled vocabulary database (VCBS) as an online thesaurus. The system handles acquisition records, cataloging, circulation, and online public access. As of March 1987, the BIPE database contained more than 100,000 monographic titles and more than 100,000 periodical articles.

Other governmental and specialized bibliographic databases in Brazil include BINAGRE (National Library of Agriculture), BIREME (Regional Medical Library, São Paulo), CAMARA (Federal Chamber of Deputies), CENAGRI (National Center for Documentary Information in Agriculture), CIMEC (Center for Informatics of the Ministry of Education and Culture), CIN (Nuclear Information Center), IPEN (Institute for Energy and Nuclear Research), ELECTROBRAS (Brazilian Electrical Generating Company), and PETROBRAS (Brazilian Petroleum Company).

Two public libraries have automated some activities: the Public Library of São Paulo (using a DOBIS-like system), and the library in São Bernardo do Campo, which developed its own integrated system called TAUBIPE (Total Automation of Public and Special Libraries).[11]

Several university libraries have automated systems for various functions. The Catholic University of Rio de Janeiro has implemented serials control, the University of Brasilia and the University of São Paulo have automated cataloging and acquisitions, and the Catholic University of Pernambuco has online indexing of periodical articles, to name a few. The University of São Paulo's system, SIBI (Integrated System for Libraries), is currently the largest cataloging database in Brazil. Developed in 1981 to handle bibliographic records for 42 libraries at four campuses, they planned to have over 700,000 monographic titles and 32,000 periodicals entered into the system by June 1987.

Many librarians in Brazil feel a need for cooperative development of library automation but see it hindered by these independently developed systems, which lack standards. Nice Figueiredo states, "These initial systems in Brazil were isolated, with few possibilities for continuity and were implemented to satisfy local needs only, with restricted performance."[12] A common complaint is that even the li-

braries of the senate and chamber of deputies, located in the same building, have separate, incompatible systems. Nevertheless, work is progressing toward the development of a framework for an online network for Brazilian libraries, as the following brief history and discussion of plans will show.

SISTEMA BIBLIODATA–CALCO

In 1972, Alice Principe Barbosa proposed the Brazilian MARC format, called CALCO ("Catalogaçao Legivel por Computador—Machine-Readable Cataloging"), in her master's thesis.[13] CALCO was based on the Library of Congress MARC II format. Barbosa had been director of the Cataloging Interchange Service (SIC), under the auspices of the Department of Public Service Administration (DASP). SIC was founded in 1942 by Lygia de Queiroz Sambaquy, then director of the Brazilian Institute for Bibliography and Documentation (IBBD), after her visit to the U.S. Library of Congress, where she was impressed with the cooperative cataloging program. Through SIC, libraries in Brazil contributed cataloging data and received free catalog cards. Cards were also made available to other libraries.

From 1972 the CALCO format was studied and revised by the Ministry of Education and Culture at the urging of the National Library. Jannice de Mello Monte-Mor was director of the National Library at that time and, upon her retirement in 1979, further work on the CALCO format was discontinued because the new director had no interest in the project. Around the same time IBBD became IBICT and, due to organizational changes, work on the CALCO format was suspended.

Nevertheless, by 1978 two manuals on the CALCO format were available: one produced by the National Library for bibliographic data input and the other by IBICT for bibliographic data interchange.[14] In the late 1970s, the Getulio Vargas Foundation (FGV) in Rio de Janeiro began using the CALCO format, contracting with other libraries to computerize their cataloging activities. The National Library joined FGV for computerized cataloging, and thus cooperative cataloging was reinstituted in Brazil. A shared cataloging database was born, and national standards began to be implemented.

Twenty-seven libraries have since contracted with the FGV for cataloging services and products. Currently libraries enter cataloging onto floppy disks. The disks are sent to FGV, and the libraries receive catalog cards, spine labels, and other items in return. Libraries also receive monthly the BIBLIODATA database (about 160,000 titles) on microfiche for searching prior to cataloging. Future plans include adding music and audiovisual formats, an authority file, and telecommunication access for online searching and cataloging.

THE NATIONAL PLAN

At the Fifth Seminar for University Libraries held in Porto Alegre in January 1987, the main topic was the National Plan for University Libraries (PNBu), whose goals included the promotion of "computerization of technical and administrative procedures within university libraries." The objectives listed were

> (a) To develop a network for exchanging of bibliographic and documentary data with an extensive data bank . . . (b) Maintaining a center which shall supply information concerning library automation . . . (c) Encouraging development of suitable software for achieving automation of all library functions; and (d) Supporting adoption of the CALCO interchange format . . . and ensuring compatibility with international standards.[15]

During the previous year, representatives from the major federal university libraries had visited FGV and the University of São Paulo (USP) to look at both cataloging systems. The USP system was considered a viable database due to its size. There had been little quality control in the SIBI database, however, and a great many entries had been duplicated. BIBLIODATA, on the other hand, has maintained extremely high standards of data input, to the point of offering the participating libraries authority work done by the staff at FGV's central library.

At the Porto Alegre conference, a working group of representatives from the university libraries was formed to make rec-

ommendations to the government regarding implementation of the steps in the national plan.[16] They recommended that the CALCO format be adopted by university libraries and that FGV be the central network office. By June 1987, a great deal of discussion was underway about coordination, contracts, and costs.

One of the main problems is cooperation. Brazilian librarians are not used to this concept. For example, interlibrary loan is virtually non-existent in Brazil. Murilo da Cunha states that as use of online databases increases so will resource sharing; but currently document delivery is the only measurable type of interlibrary loan that occurs.[17] With regard to sharing cataloging, some librarians remark that their library will be providing cataloging for other libraries, but that they will find little in the database for their own use. This sort of skepticism is understandable in light of the fact that online shared cataloging is a relatively new concept in Brazil.

Professor da Cunha, director of the University of Brasilia Library and Library School, believes that university libraries in Brazil must join together to achieve their service objectives. According to him, in 1979 there were three million uncataloged books in university libraries; by sharing cataloging via an online network, the processing time and cost will decrease considerably.[18] Economic necessity often spawns resource sharing, and this is certainly a factor motivating Brazilian librarians as they look toward online networking for help.

BEGINNINGS OF A NETWORK: UNITED STATES/BRAZIL

Online library networking can be defined as "a group of libraries linked together in a computer and telecommunications system for the purpose of participating in a common system or service."[19] Certain conditions must exist for networking to succeed. Among the seven listed by Glyn Evans, three exist in Brazil today and a fourth is in development.

Economic pressures and the labor-intensive nature of library services, which combine to form one of the conditions necessary for networking, are of prime importance to Brazilian librarians. Budgets are small and cataloging work is extensive. For example, most periodicals are analyzed because indexes are not available. A great deal of detail goes into cataloging activities: AACR2 rules and ISBD standards are rigorously applied; authority work is extensive because Brazilian names are complicated.[20]

The existence of technical standards, such as the MARC formats, is another condition Evans mentions. The CALCO format is operational and is, in fact, being used by 27 or more libraries sharing the BIBLIODATA system. It has also served as a guide for formats developed independently at other institutions. Some revision is still being done, notably the addition of new formats and enhancements for bibliographic interchange. IBICT began development of a standard format for bibliographic and cataloging interchange called "FORMATO IBICT (*Intercambio Bibliográfico e Catalográfico*)" in 1981.[21]

Another factor motivating online networking is the societal need for timely information. As a developing country, Brazil requires access to up-to-date sources of data. According to Rosenberg, "The importing of information is critical to national development and [to] the ultimate reduction of dependence on foreign resources."[22]

Evans' fourth condition has to do with the development of online computing and telecommunications. As reported above, Brazil's telecommunications network, RENPAC, began in 1984. A consortium of university libraries would be more likely to afford the costs of RENPAC and INTERDATA by using a group contract that offered discounts for increased usage. But exactly how the university libraries plan to interconnect, or how the Getulio Vargas Foundation can link the libraries to their computer, had not been determined by June 1987.

The remaining three items listed by Evans have to do with the volume and variety of published material in the United States and the decrease in computing costs. The publishing industry is small in Brazil, and foreign books are expensive and difficult to acquire. However, periodi-

cal indexing and other massive data files are needed for access to information. Computing costs, as reported above, are generally higher than in the United States. But the cost of not sharing resources is greater. The conditions outlined above may not be the primary motivations for Brazilian librarians, but they are helping in efforts toward the cooperative development of a network.

At the 1979 Indianapolis Conference on Networks for Networkers, Norman Stevens discussed the fundamental concepts of a network. These concepts can be compared to Evans' conditions. More significantly, however, Stevens pointed out that "the actual developments in the operation of networks . . . have shaped the concepts and not the reverse."[23] The design of Brazil's operational network will not imitate development in another country but, rather, will reflect its own history.

There are about 850 institutions of higher education in Brazil, 22 of which are federal universities. Twenty-seven libraries, including the National Library and two federal universities, were using the BIBLIODATA system by June 1987. If the remaining federal university libraries were to participate, FGV could certainly be considered a national bibliographic utility.

The development of networks in the United States may serve as an example. OCLC went online in 1971, BALLOTS (now RLIN) in 1972, and WLN in 1975. These bibliographic utilities began as networks to serve local needs. OCLC, for example, started at Ohio College Library Center as a statewide network for Ohio. BALLOTS was created to serve Stanford Libraries and was later acquired by the Research Libraries Group (RLG), and became RLIN (Research Libraries Information Network). WLN, first called Washington Library Network, was designed by Boeing for the Washington State Library. It is now the Western Library Network.

The phenomenal growth of OCLC, from 100,000 database records in 1971 to over five million within fewer than ten years, might serve as an example to Brazilian librarians. Whatever concerns early members of OCLC had about computerized, shared cataloging were quickly dispelled when the benefits of lower costs, faster processing, and access to an enormous national union catalog were realized.

SUMMARY

The way has been paved. In late 1987, the FGV came under the auspices of the federal Ministry of Education and Culture. This change can improve financial support, but can also encourage cooperation among the federal universities. At the beginning of the present decade, it was noted that "we [the United States] are in the midst of a library revolution as a result of computer-based networking and none of us can predict all of the impacts as change begets change in the evolution of network service."[24] Brazil is now in the midst of a similar library revolution. But many of the problems faced by librarians in a developing country are so different from those encountered in the United States that the outcome—the resultant network—will assuredly operate in distinct and perhaps unusual ways to some U.S. eyes.

REFERENCES AND NOTES

1. This article is a result of a Research Allocation Grant award by the University of New Mexico in 1986–87 to study library automation in Brazil.
2. The librarians interviewed in Brazil are extraordinarily accommodating people. I wish to thank them all for their hospitality. Especially helpful were Jannice Monte-Mor and Lydia Sambaquy of the Getulio Vargas Foundation, Nice Figueiredo of the Federal University of Rio de Janeiro, Murilo Bastos da Cunha of the University of Brasilia, Dinah Poblacion of the University of São Paulo, and Cavan McCarthy of the Catholic University of Pernambuco.
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13. Alice Principe Barbosa, Projecto CALCO: adaptaçao de MARC II para implantaçao de uma central de processamento de catalogaçao cooperativa. (Rio de Janeiro, Master's Thesis, 1972).
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16. Janet Frederick, "University Libraries in Brazil to Share Cataloging," *College & Research Libraries News* 48:201–04 (Apr. 1987).
17. Murilo Bastos da Cunha, "Effects of Data Bases on Brazilian Libraries," (Ann Arbor, Michigan, Ph.D. thesis, Univ. of Michigan, 1982).
18. Murilo Bastos da Cunha, "Rede de dados bibliográficos no Brasil: uma necessidade real," paper presented at the Fifth National Seminar of University Libraries (Jan. 12–14, 1987) Porto Alegre, Rio Grande do Sul, Brazil.
19. Glyn T. Evans, "On-line Library Networking: A Bibliographic Essay," *Bulletin of the American Society for Information Science* 5:11–14 (June 1979).
20. Brazilians change their names, spell them differently at various times, and names are often a mixture of Portuguese and another nationality.
21. "Formato IBICT," *Ciencia da Informaçao* 14:175–80 (July/Dec. 1985).
22. Rosenberg, "Information Policies," p.204.
23. Norman D. Stevens, "An Historical Perspective on the Concept of Networks: Some Preliminary Considerations," in *Networks for Networkers* (New York: Neal-Schuman, 1980), p.45.
24. Barbara Evans Markuson, "Revolution and Evolution: Critical Issues in Library Network Development," in *Networks for Networkers* (New York: Neal-Schuman, 1980), p.5.

In the past, reading instruction has been limited to the lower elementary grades. But because of the widespread criticism of the inability of college students to read, there are indications that in the years just ahead reading instruction will be part of the instructional program of all schools from first grade through college.

—Mildred Hawksworth Lowell, "Reading and the Training School Library (June 1941), p.229

Selected Reference Books of 1987–88

Eileen McIlvaine

This article follows the pattern set by the semiannual series initiated by the late Constance M. Winchell more than thirty years ago and continued by Eugene P. Sheehy. Although it appears under a byline, the list is a project of the reference departments of Columbia University Libraries, and notes are signed with the initials of the individual staff members.[1]

Since the purpose of the list is to present a selection of recent scholarly and general works of interest to reference workers in university libraries, it does not pretend to be either well-balanced or comprehensive. A brief roundup of new editions of standard works is provided at the end of the article. Code numbers (such as AD540, CJ331) have been used to refer to titles in *Guide to Reference Books.*[2]

LIBRARIES AND LIBRARIANSHIP

Directory of Library and Information Professionals. Published in collaboration with the American Library Association. Woodbridge, Conn.: Research Publications, 1988. 2v. $345 (ISBN 0-89235-125-X).

Directory of Library and Information Professionals on CD-ROM. Database by Research Publications, Inc. Woodbridge, Conn.: Kaware2 Retrieval System by Knowledge Access, Mountain View, Calif. Distributed by the American Library Assn. 1988. $495 (ISBN 0-83890-486-6).

DLIP, in both paper and CD-ROM formats, is the product of an ambitious collaborative effort to provide a comprehensive biographical reference tool for the information professional. To assure the broadest coverage possible, the publishers enlisted the help of key associations in the library profession and information industry, and made use of the membership lists of twenty additional relevant organizations.

Volume one of the directory lists entries for about 43,000 individuals, more than triple the number included in the last publication of this kind, the *Who's Who in Library and Information Services* (*Guide* AB101). A full entry contains not only biographical, educational, and career information, but also indicates subject specialty and consulting expertise. Data for the listing were culled from completed questionnaires. However, in order to include prominent professionals who did not respond to the mailing, entries were compiled for them from publicly available data. To qualify for inclusion, entrants must work in the information field at a professional level, and/or ally themselves personally with the field through membership in national professional associa-

1. Avery: Max Marmor, Barbara Sykes-Austin; Business: James Coen; Butler Reference: Mary Cargill, Beth Juhl, Anita Lowry, Kirk Moll, Louise Sherby, Junko Stuveras; Lehman: Diane Goon, William Middleton; Library Service: Olha della Cava.
2. Eugene P. Sheehy, *Guide to Reference Books,* 10th ed. (Chicago: American Library Assn., 1986).

tions. Four indexes, taking up the entire second volume, provide access to the listings by specialty, employer, consulting expertise, and geography.

Enhanced access and sophisticated manipulation of data contained in the listings are available to those opting for the CD-ROM version of *DLIP* (the price of the two formats is somewhat comparable). Included are such features as full Boolean searching capabilities with term truncation, field searching through 34 indexed data fields, functions grouped for searching by employer type, zip code, etc., and save set capability for repeat searches. In addition, such features as a user-added data field for notes, a cross tabulation capability for analysis purposes, as well as ASCII output for use with word processors or database managers enable the directory to be used for a wide range of practical and research needs, including demographic, market, and geographic analysis of the information profession.

However, as with any directory, some of the information in *DLIP* is already out of date. Moreover, because of its reliance on a mail survey, it is, in spite of its large size, woefully incomplete. Powerful retrieval software does not make up for this shortcoming.

Aware of these shortcomings, the publishers wisely conceived of the Directory as an ongoing project. It is, therefore, up to the members of the library and information profession to keep this tool up-to-date and make it more representative.—*O.dC.*

Filby, P. William. *Directory of American Libraries with Genealogy or Local History Collections.* Wilmington, Del.: Scholarly Resources, [1988]. 319p. $75 (ISBN 0-8420-2286-4). LC 87-37109.

Filby has compiled bibliographies and indexes of passenger lists (*Guide* AK25, AK35) and guides to using genealogical material (*Guide* AK24). To answer questions of availability he has compiled a directory based on responses to questionnaires received from 1,500 libraries in the United States and Canada. For each library the entry gives name, address, telephone number, hours, lending policy, head of local history or genealogy section, size and contents of the local history or genealogy collection, and available guides or indexes. The arrangement is geographical by state and city and then by Canadian province and city.

A supplementary index lists libraries with significant out-of-state collections organized by state, region and ethnic group, province, or country to which the collection pertains. Useful for research libraries in history as well as those public and private libraries maintaining large genealogical collections.—*E.M.*

MICROFORMS

Bibliographic Guide to Microform Publications, 1987– . Boston: Hall, 1988– . Annual. $215 (ISBN 0-8161-7078-9). LC 88-659660.

This *Bibliographic Guide* is an annual publication based on the holdings of the Library of Congress and the New York Public Library, which "represents an attempt to make available microform catalog records from two of the major research libraries . . . encompassing both purchased and internally produced microforms for nonserial type material" (Foreword). The format of this catalog is similar to the New York Public Library's dictionary catalog with author, title, series, and subject access. The 1987 edition includes the microforms cataloged between September 1, 1986, and August 31, 1987. A number of South Asian materials and documentary collections such as the records of the Presbyterian church in the United States are included in this issue.

The large areas of subject coverage by the two libraries make this catalog a very useful tool in identifying research materials, and in locating copies for interlibrary loan or for microform masters. One hopes this annual publication will cumulate periodically.—*J.S.*

BIOGRAPHY

Biographical Dictionary of Latin American and Caribbean Political Leaders. Ed. Robert J. Alexander. New York: Greenwood, 1988. 509p. $75 (ISBN 0-313-24353-0). LC 87-17805.

Intended as a partial companion to the 1982 *Political Parties of the Americas* (*Guide*

CJ246), this dictionary contains "over 450 biographical sketches of the most important political figures in the nineteenth and twentieth centuries in Latin America and the Caribbean" (Pref.). Entries are signed and include brief bibliographies. A chronology of political events, a listing of biographies by country, and an index are included. Political parties and organizations are usually indexed under both their acronyms and full names (in English), although cross references between the two forms are not provided.

Scope of coverage is necessarily limited; emphasis is on political *leaders*—presidents, dictators, and prime ministers. Opposition and minority figures are not generally allotted full entries, though they are frequently mentioned in the essays. *Biographical Dictionary* is useful for thumbnail sketches of specific political figures. Readers interested in broad political movements or the political history of a particular country may make use of the bibliographical references for further research.—*B.J.*

RELIGION

Edelheit, Abraham J., and Hershel Edelheit. *The Jewish World in Modern Times; A Selected, Annotated Bibliography.* Boulder, Colo.: Westview, 1988. 569p. $65 (ISBN 0-8133-0572-1). LC 87-35200.

The Jewish World in Modern Times looks at the most important works appearing in the English language that deal with modern Jewish history, defined as mid-seventeenth century to the present—approximately 350 years. The bibliography is introduced by a brief essay that summarizes the most important events, people, places, etc., that define modern Jewish history. This sets the stage for the two sections that follow. Part I: Jewish World is arranged by broad topics such as "Social History," "Religious Trends," "Antisemitism," etc. Part II: Jewish Community is arranged by geographic region beginning with general surveys followed by country discussions in alphabetical order. Separate chapters cover the U.S.S.R./Russia, the United States and Canada, and Israel. The volume also includes a glossary of terms and author/title/subject indexes. The works included are limited to those in English and those that are considered important as well as readily available to the American reading public. Thus, unpublished items and those that might be found only in the largest research libraries are excluded. The annotations are brief but critical and describe the contents of the book as well as the methodology used. Factual errors are also noted. This is an important work that should be in every collection with an interest in Jewish history and Judaica.—*L.S.S.*

Kaske, R. F., in collaboration with Arthur Gross and Michael W. Twomey. *Medieval Christian Literary Imagery: A Guide to Interpretation.* Toronto Medieval Bibliographies, 11. Toronto: Univ. of Toronto Pr., [1988]. 247p. $30 (ISBN 0-8020-2636-2).

This work is an excellent addition to the fine series of medieval bibliographies published by University of Toronto Press in association with the Centre for Medieval Studies. It is a revision and expansion of the lectures and bibliographies produced by Kaske and Gross for a seminar on "research in medieval literature," which they have alternated teaching for many years at Cornell University. The main purpose of this bibliography is to help literature students and scholars identify and interpret the sources of medieval literary imagery. It provides a detailed introduction to the primary texts and tools for studying medieval biblical exegesis, liturgy, hymns, sermons, visual arts, and mythography. It also includes a chapter dealing with commentaries and tools for studying major authors (i.e., Augustine, Boethius, Dante) and a large chapter covering various subjects of medieval imagery such as Mary, the mother of Jesus, the cross, eschatology, number and color. An appendix on medieval encyclopedias is provided by Michael Twomey. Indexes include subjects, medieval authors, and texts; modern authors, editors, and translators; manuscripts; and modern translations.

While this work is primarily oriented to the literary student, in practice it serves as a very useful introduction. No other work provides such helpful bibliographic strate-

gies for accessing these types of medieval literature. The work will also well serve the needs of art history students and scholars who are searching for literary evidence and sources for the imagery in the artistic works which they are studying.—*K.M.*

MYTHOLOGY

Lindow, John. *Scandinavian Mythology: An Annotated Bibliography.* Garland Folklore Bibliographies, no. 13. New York: Garland, 1988. 593p. $25 (ISBN 0-8240-9173-6). LC 87-29280.

This selective, annotated bibliography, compiled by a professor of Scandinavian Languages at the University of California, Berkeley, lists over 3,000 books and articles dealing with Scandinavian mythology written from the 1830s (when the scientific study of folklore began) through 1982. The vast majority of these works are in German or one of the Scandinavian languages. The author defines Scandinavian mythology as comprising the "body of texts, recorded mostly in the thirteenth century in Iceland and dealing with Scandinavian pagan gods" (Introd.). Materials dealing with Scandinavian folklore have not been included, except in cases where the folk customs are clearly remnants of older religious beliefs.

The guide is arranged alphabetically by author, with a detailed subject index. This unfortunately means the reader has to flip back and forth to find multiple entries. The index headings do not appear to be comprehensive. For instance, there are several popular retellings of the stories listed in the author section, but I could find no subject heading listing such treatments.

Due to the difficulty in finding material and the scarcity of English-language sources, this guide will be most useful with large Scandinavian collections.—*M.C.*

LITERATURE

Dictionary of Brazilian Literature. Irwin Stern, Ed.-in-chief. New York: Greenwood, 1988. 402p. $65 (ISBN 0-313-24932-6). LC 87-17744.

Recent years have seen something of a boomlet in the publishing of English-language reference works on Hispanic literature. In the last few seasons, Greenwood Press has brought forth both *Women Writers of Spain* and *Women Writers of Latin America.* Now it has published this *Dictionary of Brazilian Literature,* which provides an introduction to Brazilian authors and literary movements for the English speaker.

The main body of this *Dictionary* consists of approximately 300 entries on authors, genres, themes, movements, and other topics (art, music, dictatorship, soccer) which relate to Brazilian letters. Entries are contributed by 46 American, British, and Brazilian scholars and are signed. Twentieth-century writers and movements are emphasized. Each author entry includes a biographical sketch and critical evaluation and a bibliography of *selected* works, translations into English, and secondary sources (mostly in English). Frequent cross references, a glossary of Brazilian terms, a list of periodical abbreviations, and an index complete the volume.

Broader in scope than the *Dictionary of Contemporary Brazilian Authors* (*Guide* BD1113), the *Dictionary of Brazilian Literature* should prove valuable both for readers who cannot read Portuguese and for scholars in the field.—*B.J.*

Dietzel, Thomas, and Hans-Otto Hügel. *Deutsche Literarische Zeitschriften, 1880–1945: ein Repertorium.* Munich, New York: Saur, 1988. 5v. $470 (ISBN 3-598-10645-9).

This set, prepared at the Deutsche Literaturarchive in Marbach, is essentially a continuation of the Estermann bibliography (below). The compilers avoided duplicating titles.

The information provided for each of the 3,341 titles generally includes the publication dates, editorial history, publication history, detailed collation, selected locations, and, in many cases, the major contributors. The compilers checked the holdings of nearly 200 Western and Eastern European libraries. Secondary litera-

ture about individual journals found in books, articles, and dissertations is also provided, when available.

There are five indexes: (1) by editor; (2) by contributor; (3) by publisher; (4) by place of publication; and (5) by type of publication. The last index is particularly useful. A reader can easily find, for example, a list of women's magazines, film magazines, and so forth.

These two publications provide libraries with detailed, easy to use, and complete information covering 100 years of German literary history. They are essential for any research library.—*M.C.*

Estermann, Alfred. *Die Deutschen Literatur-Zeitschriften, 1850–1880: Bibliographien, Programme.* Munich, New York: Saur, 1988. 5v. $750 (ISBN 3-598-10708-0).

A continuation of the author's ten-volume *Die Deutschen Literatur-Zeitschriften, 1815–1850* (Nendeln, KTO, 1977–1981), the bibliography is an alphabetical list of 2,953 journals appearing between 1850 and 1880. The dates are only guidelines; a title, for instance, which ceased publication in 1851, with the majority of issues appearing before 1850 would be listed in the earlier set.

The compiler has included literary as well as cultural and general interest titles published in German anywhere in Europe. The information provided for each entry includes, when it could be determined, the title and variant titles, the places and dates of publication, selected locations and call numbers in German and other European libraries, the editorial history, and a detailed collation. In many cases the introductions or prospectuses are reprinted. The last volume includes indexes by editor, type of publication, and publisher.—*M.C.*

Location Register of Twentieth-Century English Literary Manuscripts and Letters: A Union List of Papers of Modern English, Irish, Scottish and Welsh Authors in the British Isles. London: British Library; Boston: Hall, 1988. 2v. (1,054p.) $175 (ISBN 0-8161-8981-1). LC 88-1546.

Sponsored by the Advisory Committee on Manuscripts of the Society of the Standing Conference of National and University Libraries, funded by the Strachey Trust, the *Location Register* is a product of an automated file at the University of Reading Library. The contents are very carefully spelled out with definitions for each term in the title. *English* means English, Irish, Scottish, Welsh "but also immigrants, refugees and others who spent a considerable part of their life in the British Isles" (Introd.); *literary* defines "poets, novelists, dramatists and men and women of letters of all styles and quantities"; *twentieth century* refers to "anyone who lived beyond the year 1899."

All public and most private institutions are covered but not collections held by private individuals unless specifically requested. The cut-off date is November 1987. Authors are presented alphabetically with manuscripts listed first followed by letters. Often for an author the first entry is a note pointing out major collections in the United States (usually with NUC-MC reference) and Canada or a statement of the "authors' policies for retention or destruction of their papers." For each collection of letter(s) or each manuscript the annotation includes the dates when written, occasionally a description, and the name of the repository. The Appendix gives a complete address for each repository.

Scholars and librarians have received a wondrous gift—an inventory easy to use, necessary, thorough, and fairly current. One hopes that the volumes will be updated either online or through supplements.—*E.M.*

PERFORMING ARTS

Handbook of American Film Genres. Ed. by Wes D. Gehring. New York: Greenwood, 1988. 405p. $49.85 (ISBN 0-313-24715-3). LC 87-31784.

Among the justifications for studying film genres advanced by Wes Gehring in his "Introduction" to this handbook, perhaps the most compelling for librarians is the fact that "the genre approach is . . . probably the classification system most familiar to viewers." Many film courses are

organized around a particular genre, as are the research interests of many students and scholars, including those in other disciplines as well as in film studies. For these students, the *Handbook of American Film Genres* provides a good introduction to the concept and classification of major film genres, to the nature of specific genres, and to the critical and historical literature of various film genres.

Nineteen different, though occasionally overlapping, film genres are discussed in individual chapters grouped according to five broad categories: Action/Adventure Genres (e.g., the western and film noir), Comedy Genres (e.g., screwball comedy and populist comedy), The Fantastic (e.g., horror and science fiction), Songs and Soaps (the musical and melodrama), and Nontraditional Genres (e.g., the social problem film and biographical film). Each chapter consists of an essay defining and analyzing the genre and some of its exemplars, a bibliographic essay surveying the secondary literature, a bibliographical checklist, and a selected filmography. The bibliographies are limited to books and selected periodical articles in English, and the filmographies list fewer than fifteen films in most cases, making this a reference tool for students or others just beginning work on one of the classic genres of American film. There is an index of names and titles.—*A.L.*

Sampson, Henry T. *The Ghost Walks: A Chronological History of Blacks in Show Business, 1865–1910.* Metuchen, N.J.: Scarecrow, 1988. 570p. $47.50 (ISBN 0-8108-2070-6). LC 87-27973.

As every librarian working with performing arts knows, information about popular entertainers, especially black entertainers, is often hard to find. This new work by the author of *Blacks in Blackface* and *Blacks in Black and White* fills an enormous gap. The author has attempted "to trace the development of black entertainment in the United States [from 1865 to 1910]" in the areas of minstrel shows, vaudeville, burlesque, the circus, musical comedy, and, in rare instances, opera (pref.).

He has divided the chronology into eight chapters, each covering several years. The chapters open with a brief history of black popular entertainment for the years covered. A detailed chronology follows, listing details of American black performers appearing throughout the world, derived from programs, playbills, reviews, and newspaper articles. Many of the reviews and articles are reprinted—some running to several pages—making this more of a documentary history than a straight chronology.

There is an index of names and titles mentioned in the chronology. Unfortunately, there is no subject index, so the reader cannot find references to a specific type of entertainment or to geographical areas. There is also no list of the many illustrations included. But these are minor reservations about an impressive and fascinating work.—*M.C.*

ART HISTORY

The Index of Paintings Sold in the British Isles during the Nineteenth Century. Volume I, 1801–1805. Edited by Burton B. Fredericksen, assisted by Julia I. Armstrong and Doris A. Mendenhall. The Provenance Index of the Getty Art History Information Program. Santa Barbara: ABC-CLIO, 1988. 1,047p. $90 (ISBN 0-87436-524-4 set; ISBN 0-87436-526-0 V.1). LC 88-3369.

The first of a projected twenty-volume series indexing the activity of the art market operating in the British Isles throughout the nineteenth century, this major art reference source began almost ten years ago as a project in the Getty Museum office of Senior Curator for Research Burton Fredericksen. As director of the Provenance Index, a computerized database from which this printed volume is derived, Fredericksen has brought yet another invaluable tool to the field of art historical research from the J. Paul Getty Trust's Art History Information Program (AHIP). By tracing the provenance, or history of ownership of a work of art, researchers can learn not only the history of paintings, but also about the history of taste, influences on and by individual artists, economic and trade activity, effects of

historical events on the art market, and social trends, among other applications. The information for determining provenance is compiled from sales catalogues, which for the period concerned had been chiefly covered, albeit selectively, in Frits Lugt's *Repertoire des Catalogues de Ventes* [*Guide* BE144] (v.4 1901–1925), and Algernon Graves' three-volume *Art Sales from Early in the Eighteenth Century to Early in the Twentieth Century* (1918–21, repr. 1970). This work, however, greatly expands Lugt's index, covering in the first volume alone 26,000 transactions for 10,000 to 13,000 paintings.

The data are preceded by a historical introduction and description of the character of the London art market in the early 19th century, when the Napoleonic wars necessarily had a profound impact on communication between England and the Continent. A detailed description of the indexes follows, introducing first the index of catalogues, which covers every known sale that included paintings from 1801 to 1805 for which a catalogue has survived. A Lugt number is included to link the catalogue indexed in the earlier source with the contents of the catalogue indexed here. Also listed are the dates of sale, auctioneer's name, location of sale, seller's name, source for the name, size of the sale (based on the number of lots), locations of extant sales catalogues (using Lugt's acronyms), annotations, including buyer's name, and other useful comments.

The index of paintings, arranged alphabetically by artist's name (the authority for artists' names being RILA, the *International Repertory of the Literature of Art* [*Guide* BE60], another Getty AHIP product), comprises the major portion of the book. Each painting by the artist is listed with detailed information on the description and sale of the work. Finally, the index of owners provides references to pictures bought or sold by a given owner.

The vast and detailed information presented in this volume and its projected successors, extending coverage to 1900, is derived from computerized databases at the Getty capable of sorting data in fields more numerous than those provided in the printed volume, but omitted to keep an already large volume manageable. Access to this additional data is not yet available commercially. However, in his description of the indexes, Fredericksen states: "We hope that the automated version will be accessible at some point in the future to a wider public . . . some information relative to the pictures included in this book does not appear in the printed volume and is available by contacting the compilers at the Provenance Index" (e.g., pictures can be sorted by subject according to Iconclass classification); likewise, subsequent provenance, if known, is also available upon request.

Scheduled at approximately one volume per year covering five-year periods, the appearance of this index marks a major event in art history research and scholarship.—*B.S.A.*

Lincoln, Betty Woelk. *Festschriften in Art History, 1960–1975: Bibliography and Index*. Garland Reference Library of the Humanities, V.745. New York: Garland, 1988. 220p. $40 (ISBN 0-8240-8497-7). LC 87-22767.

The history of art as an academic discipline was born in Germany. So, as its name attests, was the Festschrift. Small wonder if art historians are still among the most faithful cultivators of the Festschrift tradition.

"This volume fills the lacuna between Rave [*Kunstgeschichte in Festschriften . . . bis 1960* (*Guide* BE45)] and RILA [(*Guide* BE60)] with a bibliography and analytical index of Festschriften in art history and related fields in the humanities and social sciences published between 1960–1975" (Pref.).

Lincoln cites and indexes 4,676 essays by 3,099 authors from 344 Festschriften. Most of these volumes were dedicated to art historians, archaeologists, and architectural historians but art-historical contributions to Festschriften in related disciplines (e.g., theology) are also indexed.

The first half of the book is devoted to a bibliography of these 344 Festschriften. Entries are arranged alphabetically by the surnames of the dedicatees of the volumes, and tables of contents are provided. Three indexes follow. A subject index pro-

vides access by "persons, places and things" as well as topical subjects. An attempt was made to verify proper names against Library of Congress entries; wherever possible, names not established by LC were checked against authoritative reference tools. Further indexes offer access by author and—to facilitate use of the bibliography proper—by dedicatee.

Rave, in his bibliography of art-historical Festschriften, provides a keyword-in-context title index; Lincoln does not. That seems eminently reasonable: few Festschriften boast distinctive or memorable titles. Rave also elected to cite selected Festschriften celebrating significant anniversaries (25th, 50th, 100th) of artists' associations, libraries and museums. Again Lincoln departs from her predecessor's practice, without comment and perhaps inadvisedly. At least she might have attempted to justify her exclusion of all but three such volumes.

The performance is not flawless. At least once Lincoln was ill-served by catalogers. The festschrift for the great Erwin Panofsky is cited by its subtitle because Lincoln thought its proper title—*De artibus opuscula XL*—referred to volume 40 of a series rather than to the forty contributors to the volume—an error shared by several RLG institutions, to judge from an RLIN search! Lincoln also missed at least a few important festschriften, e.g., that of archaeologist Anton Moortgat and the second of the two volumes dedicated to Rudolf Wittkower. But these surprising omissions simply underscore the difficulty of tracking down this fugitive literary genre. Lincoln's book will make that pursuit significantly easier for the rest of us.—*M.M.*

BLACK STUDIES

Images of Blacks in American Culture: A Reference Guide to Information Sources. Jessie Carney Smith ed. New York: Greenwood, 1988. 390p. $49.95 (ISBN 0-313-24844-3). LC 87-24964.

Each chapter of this handbook is written by a specialist and presents a survey and a bibliography of the topic. "American culture" ranges from the musical theater, the film and television industry to toys, games, and dolls, children's books, the images of the black female and the black male. Sports are omitted. The last chapter is devoted to collecting black Americana.

The surveys are well written, informative, and most are presented by historical period. But it is the bibliography portion which will be of most help in reference libraries. Some are very extensive, e.g., the bibliography for the chapter on "Literary criticism and black imagery" covers criticism since 1966 divided by genre including slave narratives, themes, and then individual authors. The film and television section gives filmographies, and screen credits and studies of black actors and actresses. The "Black Americana resources and collections" chapter includes a select list of galleries, museums, historical societies, libraries, private collectors, dealers, clubs, shows, etc.

Although there are omissions, this volume will prove of great value to any library which has black studies collections and programs.—*E.M.*

BUSINESS

Nelson's Directory of Investment Managers. Port Chester, N.Y.: W. R. Nelson, 1988– . Annual. $145 (ISSN 0896-0143). LC 87-1738.

This directory aims to provide pension plan sponsors with a reliable guide to the investment management marketplace. Some 1,700 money management organizations with assets under management of less than $50 million to over $100 billion are profiled with the information within each profile numbered (up to 18) for consistency and ease of comparison. This information targets such activities as portfolio characteristics, investment philosophy, fees, decision making processes, ranges of accounts, cross border investments, mutual fund management, and rates of return. These profiles constitute the directory's first section.

The next five sections list the same organizations by state, total assets managed, organization type, area of specialty, and best-performing managers. In the seventh and final section there are profiles of consulting firms providing services such as strategic planning, performance monitor-

ing, manager screening, actuarial and administrative, benefits management, and other areas of interest to pension plan sponsors.

Data provided on managers were solicited directly through a detailed 14-page questionnaire. Information from the companies is taken at face value. The publisher maintains and updates its own database on such companies and data collection is subjected to rigorous standards.—*J.C.*

SOCIAL SCIENCES

Evans, Glen, and Norman L. Farberow. *The Encyclopedia of Suicide.* New York: Facts On File, 1988. 434p. $40 (ISBN 0-8160-1397-7). LC 88-11173.

Similar in format to *The Encyclopedia of Drug Abuse* and *The Encyclopedia of Alcoholism* from Facts On File, *The Encyclopedia of Suicide* provides students and laypersons with an interesting and browsable first source. Mental health professionals and scholars in the field might be able to make use of this book as well, but its usefulness as a tool for the serious researcher is limited.

The book begins with a 21-page introduction giving a brief history of suicide and tracing the different cultural attitudes toward it in various times and places.

The main section offers over 500 entries on the causes, history, and psychology of suicide, each varying in length from a few lines to a few pages. The connection between many of the entries and the subject of suicide is sometimes tenuous or difficult to discern. The entry under *God Bless You, Mr. Rosewater* seems to have been included because the novel contains a line about the children of suicides; Robert Lowell seems to have gotten his entry because he is known to have once entertained suicidal thoughts. Many of the headings, such as the one for *Mr. Rosewater,* are treated less as a topic to be addressed than as a possible point of departure; this style sometimes makes for interesting reading, but in an encyclopedia it is more often disorienting.

The entry for James Dean is four times longer than that for Elisabeth Kübler-Ross (five times longer if you count the separate entry under *Rebel without a Cause*). The book emphasizes the popular; indeed, there are so many entries for celebrity or otherwise newsworthy suicides that the book can take on an almost gossipy tone.

Cross-referencing is inconsistent. For example, "April suicides," "Stormy Monday," and "Night (darkness), effect on suicide rate," are all "Temporal factors, (time, season, and relation to suicide)," but none of them refers to any of the other entries. (The entry under "Weather," curiously enough, doesn't mention anything about weather at all, but it does refer one to "Temporal factors," which is the issue the "Weather" entry actually addresses.) Even more curious are the separate, complete, and only partially redundant entries under "Notes, suicide" and "Suicide notes," neither of which refers to the other. Finally, the individual entries for the most part do not give sources for further reading or research.

Three appendixes follow, the first two of which are statistical. Appendix 1 provides figures and tables on youth suicide in the United States from 1950 to 1980; Appendix 2 provides data on suicide in the United States generally, from 1970 to 1980. Both sections rely on government-collected data. Some data on countries other than the United States are given in the main part of the encyclopedia under that country's name.

The third appendix lists national and international associations, institutes, organizations, and government agencies that can provide information on suicide. Included in this section are lists of suicide prevention hotlines and of the major English-language periodicals dealing with the subject.

The bibliography which follows mixes works of poetry, fiction, popular psychology and even general reference titles (e.g., *Isaac Asimov's Book of Facts*), and combines them with scholarly books and journals on suicide. The result, as with the rest of the book, is often more interesting than useful. Indexed.—*W.M.*

HISTORY AND AREA STUDIES

Civilization of the Ancient Mediterranean: Greece and Rome. Ed. by Michael Grant

and Rachel Kitzinger. New York: Scribner, [1988]. 3v. (1,980p.) $195 (ISBN 0-684-17594-0). LC 87-23465.

Beginning students grappling with Plato or mythology, as well as scholars from fields outside the classics, frequently need basic information about classical antiquity. The *Oxford Classical Dictionary* (*Guide* DA125) is authoritative and concise, but sometimes insufficient; *Pauly-Wissowa* (*Guide* DA126) can be rather intimidating to readers without German. The *Civilization of the Ancient Mediterranean* provides an excellent middle ground between these two. It digests recent scholarship on familiar topics and introduces new areas of study not addressed in either of the earlier works.

Covering the ancient world from 1000 B.C. to the fifth century A.D., these three volumes consist of almost 100 signed essays by 88 scholars on topics in philosophy, religion, history, geography, political and military science, anthropology, sociology, economics, sciences, arts, and literature. Essays are arranged topically within broad subject areas "in order to bring together . . . information which would be scattered in various parts of a work written solely along chronological lines" (Introd.). Thus, the section "Political and Social Life" includes essays on Greek and Roman education, folklore, athletics, festivals and games, medicine, sex, and prostitution. Though most essays cover only the Greek or Roman period, some (e.g., "Piracy" and "Magic") span the entire ancient world. Each essay is intended to stand alone; contributions average about 30 pages in length and include bibliographies of both primary and secondary sources.

Civilization of the Ancient World is immensely readable; most essays present not only a synthesis of traditional scholarship in a particular field, but report recent discoveries and controversies as well. A chronology is included in the first volume. Black-and-white maps, illustrations, and photographs are scattered throughout the text and a series of maps and an excellent index follow at the end of the third volume. Though there is no attempt to standardize the different forms of spelling and transliteration of ancient place- and personal names in the text, the index provides cross-references to various forms.—*B.J.*

Echard, William E. *Foreign Policy of the French Second Empire, a Bibliography.* New York: Greenwood, 1988. 416p. $75 (ISBN 0-313-23799-9). LC 87-37566.

Echard has based this secondary bibliography on such sources as the *Bibliographie annuelle de l'histoire de France* (*Guide* DC155), *Historical Abstracts* (*Guide* DA19-21), and national library catalogs. He does not claim it to be a critical work and frankly states that he has not tried to examine all the items listed. The bibliography covers foreign relations of France and general studies of historical issues where French interest was predominant. Another bibliography by the same editor, *Select Bibliography of the French Second Empire,* will cover the general history of France in the 1850s and 1860s, and these two bibliographies will supplement the *Historical Dictionary of the French Second Empire* (New York: Garland, 1985).

The bibliography includes books, doctoral dissertations, and journal articles, the latter from some 679 periodicals, published between the mid-1880s to the mid-1980s in English, French, German, Italian, and Spanish. The items are arranged under broad subject headings, for example, "England and France," "the Mexican Intervention," and are indexed under author and subject. The headings in the subject index are, however, rather too broad to be really useful. Since there is no extensive critical bibliography for the period, comparable to *Les sources de l'histoire de France* (*Guide* DC138), this master list, however uncritical it might be in its contents, is a welcome substitute for the task of plowing through various annual bibliographies.—*J.S.*

Gardner, J. Anthony. *The Iraq-Iran War: A Bibliography.* London, New York: Mansell, [1988]. 124p. $56 (ISBN 0-7201-1879-4). LC 88-10033.

McLachlan, K. S., and Schofield, Richard N. *A Bibliography of the Iran-Iraq Borderland.* Outwell, Wisbech, Cam-

bridgeshire: Middle East & North African Studies Pr., [1987]. 383p. MENAS Bibliographies. £26 (ISBN 0-906559-21-9). LC BG716509.

It is always depressing when a war lasts long enough to require a retrospective bibliography to cover its literature, but these two complementary bibliographies will be welcome additions to libraries serving Middle East scholars.

Gardner's work is the more focused of the two, centering on the 1980–1987 conflict. Its 509 annotated citations are grouped within general sections, e.g., background to the war; domestic impact of the war; the conflict in the Gulf and its impact; the literature and film of the war. Within each of these sections, there are further subdivisions: Iraq and Iran at war, 1980–1987, includes sections on the military and armaments; peace efforts and peace predictions; causes and issues of the outbreak and continuation of the war; legal issues; prisoners and refugees; maps; and drugs. Gardner has emphasized books and journal articles in Western European languages, English, Persian, and Arabic, published through the end of 1986; some essays, documents, and document collections are also listed. Newspaper articles or articles from popular magazines have been excluded unless they are interviews with key figures, or are articles by prominent individuals or recognized scholars in the field; pamphlets and ephemera have likewise been excluded. The introduction to the bibliography is generous with suggestions for current research utilizing computer searches, Persian and Arabic publications, newspapers and translated broadcast reports. The literature and film of the war section includes citations to fiction, poetry, biographies and memoirs, photographic essays, and television broadcasts and other films. Author and title indexes complete the work.

The MENAS bibliography focuses on literature on disputes over the land boundary between Iraq and Iran, including the estuarine frontier zone along the Shatt al-'Arab, and includes far more historical, geographical, map, and archival literature among its 3,381 unannotated citations. Its initial object was to assemble a small library of materials for the use of staff and students of the School of Oriental and African Studies at London University, and involved the University's Middle East Centre and Department of Geography. Its detailed classed format is organized into chapters on geography, geology and geomorphology, and maps of all varieties with scales indicated; modern history and international relations, including the Gulf war, superpower rivalries in the region, geopolitics and Gulf security, treaties, British government and Colonial Office reports, and bibliographies. Appendixes list materials in the British Public Record Office and in India Office Records. Materials included are in English and Western European languages; Persian, Arabic, and Russian are, for the most part, excluded, as are newspaper articles and current affairs journals. There is good coverage of essays in collected works, American and British doctoral dissertations, and government documents. Only author indexing is provided.

Both these bibliographies would have been greatly improved by a detailed subject index. There are no cross-references within the text, and with the complicated cross-relationships between foreign and domestic factors, minority groups, and historical periods, users must check many sections to be reasonably sure they have covered their topic. Undergraduates and beginning graduate students will be well served by the Gardner bibliography, but libraries aspiring to complete coverage of a complex historical problem will want to have the MENAS bibliography as well.—*D.K.G.*

Olson, James S. *Historical Dictionary of the 1920's. From World War I to the New Deal, 1919–1933.* New York: Greenwood, 1988. [421]p. $55 (ISBN 0-313-25683-7). LC 87-20087.

A sort of "prequel" to Olson's *Historical Dictionary of the New Deal* (1985), this dictionary should prove useful for quick lookups and brief bibliographies on topics of the twenties in the United States. Whereas the earlier work consisted of signed contributions from many different scholars, the *Historical Dictionary of the*

1920's is entirely the work of Professor Olson.

This dictionary consists primarily of brief, alphabetically arranged articles on "the most prominent individuals, social movements, organizations, legislation, treaties, political events, and ideas of the era" (Pref.). Each entry includes at least one bibliographical reference. A chronology, detailed index, and an extensive, topically arranged bibliography of books and articles on the period complete the volume.

Emphasis is on individuals and discrete events rather than broad cultural, political, or economic trends; there are entries for Louis Armstrong and Al Capone, not jazz or gangsters. However, students should find this dictionary a more compact and more complete source for the twenties than the *Dictionary of American History* (*Guide* DB146). There are many articles on individuals and aspects of popular culture, such as Greta Garbo, Rin-Tin-Tin, Lifesavers, confession magazines, Amos and Andy, and Zane Grey. Topics and personages which might be covered by several unrelated articles in the *Dictionary of American History*, e.g., Henry Stimson, the Stimson Doctrine, are here brought together in one handy entry.—*B.J.*

Researcher's Guide to Archives and Regional History Sources. Ed. John C. Larsen. Hamden, Conn.: Library Professional Publ., 1988. 167p. $27.50 (ISBN 0-20802-144-2). LC 88-15081.

This guide "provides a background for archival research, identifying basic procedures and tools, and suggesting ways in which research can be undertaken efficiently" (Pref.). As such, it is an informative companion to certain other handbooks of historical method such as *The Modern Researcher* (*Guide* DA4) and acts as an update of Philip Brooks' *Research in Archives* (*Guide* DB12).

Aimed at the beginning student, this *Researcher's Guide* consists of a series of topical essays on various aspects of archival research by archivists and librarians from across the country. Subjects include a general introduction to the use of archival sources, ethics and archives, reference tools, business and religious records, oral histories, genealogical sources, and public records and governmental sources. Many bibliographical references are scattered throughout the text; "Notes and Bibliographies" for each chapter appear at the end of the volume. There is some duplication of coverage: a basic introduction to the nature of research in archives is included in at least three different places. Some topics, such as the chapter on preservation, seem out of place in a handbook intended for a general audience.

Novice researchers will find much of this guide informative and interesting, though they may have to look elsewhere in order to identify materials in archives and manuscript collections that are pertinent to their research.—*B.J.*

SCIENCES

Durbin, Paul T. *Dictionary of Concepts in the Philosophy of Science*. Reference Sources for the Social Sciences and Humanities, 6. New York: Greenwood, [1988]. 362p. $59.95 (ISBN 0-313-22979-1). LC 87-32293.

This new dictionary is "a summary of approximately one hundred basic controversies (or would-be controversies) covering all the subfields in contemporary philosophy of science" (Intro.). It is oriented to upper-level undergraduates and graduate students who are beginning study in the philosophy of science, and is designed as a supplement to a textbook or introductory survey of the field. Originally planned to cover concepts in the history as well as the philosophy of science, its scope was curtailed by the publication of the *Dictionary of the History of Science* (*Guide* EA217), to which it forms a good companion volume.

Each of the two- to four-page articles begins with a brief definition of the term delineating the variety of usages, followed by an essay describing the history of the term and examining the contemporary points of view on the issue. The articles conclude with a substantial list of references and sources of additional information. The bibliographic lists are probably the most valuable aspect of this carefully done work. "Great care has been taken to

make the bibliographies both historically representative . . . and genuinely helpful to beginning students." The "Sources of additional information" section is a one-paragraph bibliographic essay which leads the reader to basic materials in the field with special attention given to important articles in the major encyclopedias. All works referred to in these lists are in English. The definitions and articles themselves are quite useful descriptions of the terms. While working in a field that is normally laden with jargon, the author has made a good effort at avoiding unexplained technical terms. Good cross-references are provided throughout this work.—*K.M.*

NEW EDITIONS, SUPPLEMENTS, ETC.

For the much expanded 13th edition, *The Reader's Advisor* (12th ed. *Guide* AA443) has just published v.4, The best in the literature of philosophy and world religions, ed. William L. Ruse (New York: Bowker, 1988. 801p. $75). A. Robert Rogers' *The Humanities: A Selective Guide to Information Sources* (1979 *Guide* note, p. 329) is revised and updated in a third edition by Ron Blazek and Elizabeth Aversa (Englewood, Colo.: Libraries Unlimited, 1988. 382p. $36). One major change is the incorporation of a section to present online databases within the discussion of a discipline.

Ulrich's International Periodicals Directory 1988–89 is the 27th edition (New York: Bowker, 1988. 3v. $280; *Guide* AE10). It now incorporates *Irregular Serials and Annuals* (*Guide* AE7). Other new features: main page numbers in the title index are in boldface, the cessations index covers three years instead of one, new serials beginning during the last three years are specially marked as are periodicals which are full-text online.

British Newspapers and Periodicals 1641–1700: A Short-Title Catalogue of Serials Printed in England, Scotland, Ireland, and British America, compiled by Carolyn Nelson and Matthew Seccombe (New York: Modern Language Association, 1987. 724p. $250), is a companion to Wing STC (*Guide* AA819) listing every issue of a serial with date, number, and locations. Beautifully indexed by editor, publisher-printer, subject, language, month and year, and cities other than London.

Newsletters in Print, formerly *Newsletters Directory,* formerly *National Directory of Newsletters and Reporting Services* (*Guide* AF30) has published a 4th edition (Detroit: Gale, 1988. 4v. 1,397p. $165) which expands coverage some 20 percent. Already Gale is announcing a softcover supplement for April 1989 ($80).

Researchers now using the *National Union Catalog of Manuscript Collections* (*Guide* DB64) have an *Index to Personal Names . . .* (ed. Harriet Ostroff, Alexandria, Va.: Chadwyck-Healey, [1988]. 2v. $450?). Even though three volumes have been announced, only two volumes have been published. All personal and family names are brought together in one alphabet with the NUC-MC number. Those numbers in italics are descriptions of major collections.

William and Mary Morris have not changed the words and definitions from the first edition of *Morris Dictionary of Word and Phrase Origins* (*Guide* AD43) but have added many new words for the second edition (New York: Harper & Row, [1988]. 669p. $25). *Le petit Robert 2: dictionnaire universel de noms propres alphabetique et analogique* (ed. Alain Rey) (*Guide* AK185) is in a "nouvelle edition" (Paris: Le Robert, [1988], 1,952p.) with many articles, tables, etc., updated to 1986–87.

The *Dizionario patristico e di antichità cristiane* (*Guide* BB310) is complete with the publication of v.3, Atlante patristico (Casale Monferrato: Marietti, 1988. 417p.) supplying an index, chronology, and plates of illustrations for the first two volumes.

Who's Who in U.S. Writers, Editors and Poets: A Biographical Directory (Highland Park, Ill.: December Pr., 1988. 671p.) is now in a second edition with entries for "about 8500 poets, novelists, short story writers, editors of journals and books, nonfiction writers, translators, critics, playwrights, scriptwriters, and biographers" (Pref.). This represents an increase of some 1,500 entries over the 1987 edition (651p.).

The *Dictionary of Literary Biography* published by Gale (*Guide* BD416) continues to

grow with some very interesting additions, many covering foreign authors: v.68, Canadian Writers, 1920–1959, ed. W. H. New (417p. $95); v.69, Contemporary German Fiction Writers, ed. Wolfgang D. Elfe and James Hardin (413p. $95); v.70, British Mystery Writers, 1860–1919, ed. Bernard Binstock and Thomas F. Staley (389p. $95); v. 71, American Literary Critics and Scholars, 1880–1900, ed. John W. Rathbun and M. Grecu (374p. $95); v. 72, French Novelists 1930–1960, ed. Catharine Savage Brosman (478p. $95); v. 73, American Magazine Journalists, 1741–1850, ed. Sam G. Riley (430p. $95); v. 75, Contemporary German Fiction Writers, second series (367p. $95); v. 76, Afro-American Writers, 1940–1955, ed. Trudier Harris (389p. $95). All of these volumes have cumulative indexes to the whole series as well as to the *Yearbook* and the Documentary Series.

Jefferson D. Caskey has compiled an *Index to Poetry in Popular Periodicals 1960–1964* (New York: Greenwood, [1988]. 232p. $49.95) which is a companion volume to his coverage for 1955–59. The volume indexes periodicals included in the *Readers' Guide*, though for this period the index did not cover poetry.

Ottemiller's Index to Plays in Collections (*Guide* BD215) is in a seventh edition (Metuchen, N.J.: Scarecrow, 1988. 564p. $42.50), revised and enlarged by Billie M. Connor and Helene G. Mochedlover. The coverage is extended ten years to 1985, adding 251 new anthologies.

Lyman Tower Sargent has also added ten years to the coverage of his bibliography, *British and American Utopian Literature, 1516–1985: An Annotated Chronological Bibliography* (New York: Garland, 1988. 559p. $75; 1st ed., 1979, *Guide* BD623). The volume now is an extensive listing of works of utopian literature; the frustrating part is that the section of secondary works has been dropped necessitating both volumes on the shelf.

A fourth edition of *Handel's National Directory for the Performing Arts* (Dallas: NDPA, [1988]. 2v.) continues in part the *National Directory for the Performing Arts and Civic Centers*, updating and adding new entries for organizations, facilities, and institutions offering courses in dance, instrumental and vocal music, theater and the performing arts. Volume 5 of the *International Dictionary of Film and Filmmakers* (Chicago: St. James Pr., [1987]. 494p. $55) is a title index to the films included in v.1–4 of the series and includes cross-references for alternative English-language titles.

In order to "reduce the number of pages . . . and thereby hold down the purchase price" (p.iv) the *Census Catalog and Guide 1988* (Washington, D.C.: GPO, 1988. 396p. $19; *Guide* CG101) "omitted products from the 1977 economic and government censuses and 1978 agriculture censuses [as well as] several of the Factfinders from Appendix D." Otherwise this edition is cumulative for 1980–1987.

America at the Polls 2: A Handbook of American Presidential Election Statistics 1968–1984, compiled by Richard M. Scammon and Alice V. McGillivray (Washington, D.C.: Congressional Quarterly, 1988. 594p. $60), is a companion to *America at the Polls . . . 1920–1964* (*Guide* CJ165). It extends coverage at the national, state, and county levels and adds presidential preference primaries, 1968–84.

The *Dictionary of Medieval Knighthood and Chivalry: People, Places and Events*, compiled by Bradford B. Broughton (New York: Greenwood, 1988. 774p. $55), is a companion to his earlier *Concepts and Terms* (1986. 597p.). Together they present the development and growth of chivalry and knighthood.

One omission from earlier columns is the mention of v.46: Zemstvo agricultural policy—Zyriane (1987. 246p.) of the *Modern Encyclopedia of Russian and Soviet History* (*Guide* DC571). Besides completing the alphabet there is a supplement covering "Abakam" to "Archives in the Soviet Union." This supplementary section covers entries omitted from the first alphabet, entries for important Soviet figures who have died recently, articles on the most important cities and towns in Russia and the Soviet Union. In 1988, v.47–48 has appeared covering "Archives in the Union Republics of the Soviet Union" through "Inkerman."

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Letters

To the Editor:

On reading your editorial on library superstars (July 1988) my first thought was: what a pain in the butt a lot of them must be to work with. I wonder how many superstars are compensating with supererogation because certain qualities are lacking or are seriously flawed in their personality—such as an ability to get along with their staff. I wonder if you took a survey of their co-workers—both peers and supervisees—what would be the *candid*, the honest response?

In my own limited observation I've noticed that people who excel in their work from the perspective of their patron or supervisor may do so at the expense of social and other skills. I suggest somebody often pays for the superstar performance and I suggest it may be (among others) the supervisees.

Superstars do not operate in a vacuum. Without the rest of the library staff their efforts are of minor consequence. Yet I think that they gain some of their "superness" by driving—not necessarily pleasantly—those around them. The star gets the glory and the crew gets the shaft (something of a paraphrase from the movie *Patton*).

Finally, some focus ought to be put upon those librarians who deal humanely and decently with their staff—superstars in human relationships who otherwise may be average librarians. Don't they belong on your list?

Of course, I'm not suggesting any of the "superstars" that you mention fit into the negative characterizing I've outlined above.

What price excellence?

STEPHEN WALKER
Warrensburg, Missouri

To the Editor:

The November 1987, issue of *College & Research Libraries* included an article titled "Librarians and Faculty Members: Coping with Pressures to Publish." The premise of the article is that both librarians and faculty members have time to write and publish if they manage to find one-half hour per day for this purpose. I was alarmed by the premise for two reasons. First, adding a writing requirement to present librarian assignments could cause library service to deteriorate, both because less time would be available for usual duties and because the added pressure to fulfill this requirement might impel many librarians to move to other libraries or to other professions where the pay is higher and the stress is less. Second, if librarians are forced to write articles without adequate time for research and reflection, the quality of library literature will deteriorate.

The authors' research raised several questions in my mind which were not answered in the article. First, on what basis did they select the sample of librarians? All but one of the librarians in the sample worked in public services, all had tenure, and none had heavy supervisory responsibilities. What percentage of academic librarians meets these criteria? Perhaps this library is unusual, but, of nineteen librarians here, none matches the sample studied in the article. Did the authors intend to imply that only librarians who met these criteria would be likely to find currently uncommitted time during working hours? Or should readers assume that the authors' conclusion that librarians have adequate time to write applies to all librarians, including those in technical services, those with supervisory

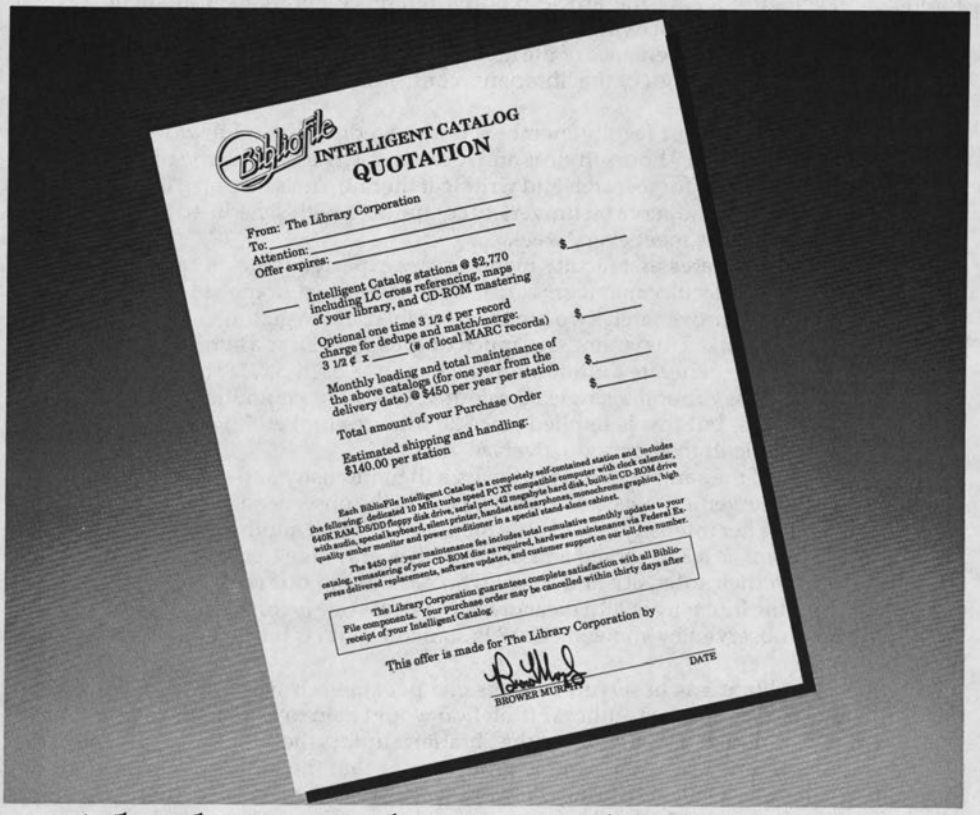
responsibilities, and junior librarians who are already finding it difficult to fulfill the requirements for tenure?

The authors' conclusions were based on self-report sheets by the sample of librarians and faculty members on the activities of their positions, the length of their work weeks, and the intensity and enjoyment of their work. These were supplemented by weekly visits of 10-20 minutes each by one of the authors.

The study was conducted during an academic year. Presumably it did not take into account the four-month break during the summer which most faculty members get every year and which is not available to librarians in most institutions. Faculty members at this university have a total of twenty-one weeks of leave plus four scattered paid holidays every year compared to the librarians' four or five weeks of annual leave (depending on the length of service) plus ten scattered holidays. Faculty members could, if they wished, take the same amount of vacation time as librarians and be left with fifteen or more weeks for research and writing without having to do any of it during the academic year. This is almost as much time every year as a librarian has available every six years if a sabbatical leave is granted.

According to the text of the article, the faculty sample reported an overall mean of 23.5 hours on campus to which must be added the work done at home. The authors conclude, after analyzing the desk duties and other fixed assignments of the reference librarians, that "the resultant patterns of at least 25- to 28-hour workweeks for these librarians resemble the on-campus workweeks of traditional faculty depicted in figure 1." Figure 1 appears just above this statement and shows the librarians' on-campus work week ranging from 17 to 42 hours but seeming to average above 35 hours per week. The faculty range is from 15 to 20 hours and appears to average about 18. In an article which tries to prove that one-half hour per day, or 2½ hours per week, is ample time for writing and publication, even if the text and figure 1 agreed, the two patterns cannot be said to resemble each other.

Are the faculty and librarian fixed work weeks similar? Our reference librarians are



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scheduled to be on the desk 18–20 hours per week. Most of the time this is a very stressful activity. If, on occasion, there is a five-minute break, they probably need it just to let the adrenaline level subside. As the article reports, reference librarians also spend several hours per week in teaching activities and they design and conduct online searches. All of these services are at the convenience of the users, not the librarians; in other words, most of the work-week schedule is out of the librarians' control and any lull in these activities cannot be foreseen.

In contrast, although most faculty members undoubtedly work a full work week, their fixed schedule is limited to 9 hours in class and 6 hours of office time. Some of the six hours in the office could be used for research and writing if there are no scheduled appointments. Many faculty members also serve on university committees with scheduled meeting times, although few committees meet every week.

Our faculty manual states that faculty members are expected to be on campus four, not five, days per week. If faculty members can arrange to work at home at least one day per week, they save the approximately two hours normally spent in getting ready for and commuting to and from work. This is almost as much time each week as a librarian would gain if it is indeed possible to generate a 30-minute block of time each day. (The authors did not explicitly state that they found a single 30-minute block of uncommitted time during the librarians' work days, but this is implied since 30 minutes broken into several short segments would be difficult to use productively.)

The authors asked the sample groups to analyze their intensity and enjoyment and compared it with an observer's analysis. On what basis did the observer determine that a librarian who rated his or her intensity as a 10 only merited a 3 or that another librarian who rated his or her enjoyment as a 3 deserved a rating of 7? The only clue in the article is that some librarians overrate their intensity and those who are burned out rank themselves low in enjoyment. Isn't the intensity level a measure of the stress one is conscious of rather than of the activity level observed by someone else? Is someone who is burned out likely to enjoy his or her work?

Were the same librarians observed by the same person each week or were the assignments rotated among the three authors? (Rotation would help to explain the discrepancies from one week to another.) Was either of the librarian authors the supervisor of some of the librarians in the sample? Was the sample group aware that the authors wanted to prove that writing time was available during the work week? Was the level of activity preceding the observation factored in? Was the intensity level compared with the analysis of the library department head who observes the librarians regularly? Were the fluctuations and discrepancies as great for faculty members as for librarians? (The chart represented only librarians' ratings.)

Finally, the authors conclude not only that librarians could find half an hour per day to write, but that this would be more productive than longer time spans. Leaving aside the fact that setting up one's notes, logging on to the word processor, reviewing where one is from the day before, and trying to work in the middle of a busy office may mean that the half hour passes without anything at all getting written, what does one write about if there is no scheduled time for research?

Literature searches are time-consuming. A researcher must identify promising materials, locate them, read them and take useful notes. Even if librarians are conscientious about keeping up with current literature in the field, their reading is unfocused and it is probably not adequate background for the articles they may wish to write.

Many academic librarians do not have the advantage of working in an institution with a library school and may not even have access to a library school collection in their community. If they must borrow materials on inter-library loan, many of the items they borrow may be irrelevant. Faculty members can schedule visits within the work week to other libraries or research institutions if on-campus materials are inadequate. Librarians do not have the same opportunity.

Finally, one half-hour per day does not allow sufficient time for the proofing, checking,

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and rewriting which is essential if articles are expected to be accurate and clear.

The implication of the November article is that librarians should publish even if they have nothing to say. This is a pernicious view for three reasons:

- It furthers the image of librarianship as an unresearchable, unscholarly, and untheoretical discipline.
- It would swamp the library literature with articles which are not worth reading.
- It makes it less likely that librarians will pursue badly needed research and writing on broad philosophical and policy questions.

SALLY JO REYNOLDS
Head of Cataloging
American University

To the Editor:

Most of the criticisms that Sally Jo Reynolds levels at our article, "Librarians and Faculty Members: Coping With Pressures to Publish," have their basis in an *a priori* rejection of the comparisons we make between librarians and faculty and the strategies we have suggested for helping librarians engage in writing. Reynolds arbitrarily asserts scholarly writing would come at the expense of service (teaching) despite lack of evidence in the literature of librarianship to support her view. Moreover, she ignores the works we have cited which suggest no deleterious effects on teaching when one engages in such writing (apparently seeing these as having no relevance to librarians). Reynolds dismisses any similarity between librarians and faculty members in this area, falling back on the age-old lament that faculty members have more time for research than do librarians. In some settings that may indeed be true; in the one reported on we found that overall work weeks were not unalike and that demands placed upon both groups resemble each other. While we make no claim that the situation in our study is identical to those of every institution where librarians have faculty status, we suspect that it is not as atypical as suggested by Reynolds. We reported the findings of an investigation based upon careful analysis of the activities of librarians. We invite others—Reynolds included—to conduct similar examinations of their libraries and to share the results with the profession.

The basic questions we pose are the same we asked at the beginning of our study: How can librarians who are expected to publish (and at the particular university studied, they *are* expected to publish) be assisted in doing so? And, can less traditional approaches to scholarship bring about broader participation in the process of producing "accurate and clear" manuscripts on "broad philosophical and policy questions?" We cite evidence that the use of brief writing sessions can be effective, and hold that activities such as setting up, searching the literature, gathering materials and proofing, checking and rewriting also can be managed during the interstices of busy days. We deny any implication in our article that librarians should write merely for writing sake and reject the old saw of too many librarians cluttering up the literature with articles "not worth reading." We do claim, however, that scholarly writing can be a strengthening and creative element in our work with students and faculty. Reynolds is concerned that the image of librarianship not be one of "an unresearchable, unscholarly, and untheoretical discipline." We agree and submit that practitioners have an obligation to contribute to the scholarly development of the field. Such development, however, will derive not from the rejection out-of-hand of new ideas, but rather from a willingness to conduct empirical tests of what we do and how we do it.

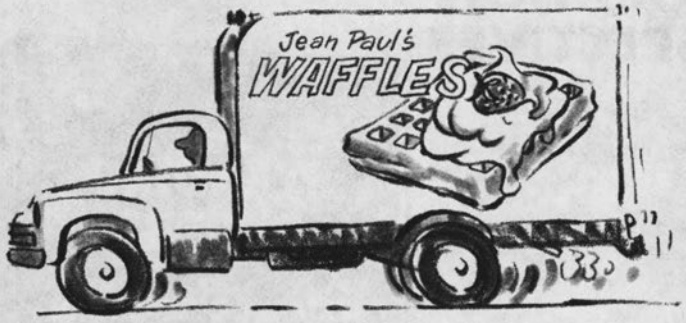
To respond to some of Reynolds questions and comments that may be of general interest to the journal's readers:

- the sample of librarians was chosen by the library director to be representative of all librarians on the staff; virtually all of the library's professionals work in public service, are tenured, and have non-managerial positions
- all the librarians are eligible for academic year appointments, with summers off (and, as indicated in the article, at the same salary levels of the faculty); therefore, approximately the same number of days for writing are available to each group

- the single observer remained the same throughout the study, tracking each librarian each week
- one of the authors has overall accountability for the performance of the librarians in the sample; in keeping with a faculty model, however, the term "supervisor" is not a term normally used in describing this relationship
- there was no preconceived notion of results; we began by not knowing what we would find and were prepared to report whatever results were discovered including data that indicated librarians did not have adequate time for writing; the *intent* of the study was *not* "to prove that writing time was available during the work week" and therefore the sample group was not told this was so
- the study continued for a full year, beyond the data reported, with similar results.

In choosing to ignore evidence (e.g., R. Boice, *College Composition and Communications*, 1985, p. 472–80) showing that brief, daily writing sessions produce better, more creative material for publication, Reynolds may reject such an approach as workable for librarians. It has been shown, however, that where academicians have practiced this regimen they have incorporated scholarly writing into busy schedules without decreasing quality of service, increased writing output when compared with previous practice, realized greater satisfaction and confidence in their work, and published more successfully.

ROBERT BOICE, JORDAN M. SCEPANSKI, and WAYNE WILSON



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Recent Publications

BOOK REVIEWS

Fee-Based Services: Issues & Answers: Second Conference on Fee-Based Research in College and University Libraries: Proceedings of the Meetings Held at the University of Michigan, Ann Arbor, May 10–12, 1987, comp. by Anne K. Beaubien. Ann Arbor: Michigan Information Transfer Source, Univ. of Michigan, 1987. 82p. $28 (ISBN 0-9619681-0-7). LC 87-34900.

During the eighties the number of academic libraries contemplating the establishment of fee-based information services has grown from a mere trickle to a groundswell. Although the reasons for considering the implementation of these services varies from library to library most of the institutions are motivated by one of the following factors: a desire to bring additional monies into the library by charging for special services to nonuniversity clientele, an opportunity to raise the profile and improve the image of the library on the campus and in the community, and finally, a chance to provide information services to other nonuniversity users without negatively affecting service to primary clientele.

This slim volume, the proceedings of the Second Conference on Fee-Based Research in College and University Libraries held at the University of Michigan in the Spring of 1987, provides a noteworthy introduction to the current thinking and practice on fee-based library services. In addition to the seven papers presented at the conference, there is a lengthy and excellent selected bibliography on the topic. Libraries just beginning to explore this area will do well by beginning here. While the articles and bibliography provide an entrée into the literature, the list of attendees will lead one to experienced and knowledgeable contacts.

The proceedings begin strongly with two papers on marketing, the first on "Targeting Your Market" by Tracy Casorso and Sharon Rogers, and the other on "Selling the Service" by Alice Sizer Warner. Both papers will provide a harsh dose of reality to any service that expects to open its doors and sit back and wait for clients to come streaming in. Another standout contribution is Elizabeth Lunden's paper on "Quality Control." Her discussion of the six characteristics of a quality information product—accuracy, appropriateness, timeliness, absence of errors, consistency, and image—is superb. Other papers include a discussion of permissible activities under United States copyright law, a view on information brokerage from the private sector, and contributions on financial and policy issues related to fee-based services.

It should be noted that all of the papers are brief and as a result do not comprehensively cover their subject areas. They serve best as both introductions to the subject area and outlines of issues to be considered when establishing and managing a fee-based service. Further, there are many issues that are not covered here. Readers will need to turn to the bibliography to find information on the impact of the fee-based service on other areas of the library,

on establishing a realistic fee schedule, and on resources needed to begin a service. None of this, however, is meant as a criticism of the publication. *Fee-Based Services: Issues and Answers* is a useful contribution on a timely topic.—*Patricia Tegler, Kirkland & Ellis Law Library, Chicago, Illinois.*

OTHER PUBLICATIONS

AIDS 1988, Part 1. Comp. by David Tyckoson. Phoenix: Oryx, 1988. 139p. $19.50 (ISBN 0-89774-504-3).

ALA Survey of Librarian Salaries 1988. Project Director, Mary Jo Lynch. Chicago: American Library Assn., 1988. 52p. (ISBN 0-8389-3366-1).

American Literary Critics and Scholars, 1880–1900. V.71. Ed. by John W. Rathbun and Monica M. Grecu. Detroit: Gale, 1988. 374p. $95 (ISBN 0-8103-1749-4). LC 88-10879.

Business Ethics and Responsibility: An Information Sourcebook. Comp. by Pamela A. Bick. Ed. by Paul Wasserman. Phoenix: Oryx, 1988. 205p. $32.50 (ISBN 0-89774-296-6). LC 87-23191.

Cities of the United States. Ed. by Deborah A. Straub and Diane L. Dupuis. V.1. Detroit: Gale, 1988. 403p. $69.95/vol. (ISBN 0-8103-2501-2).

Comic Books and Strips: An Information Sourcebook. Comp. by Randall W. Scott. Phoenix: Oryx, 1988. 160p. $30 (ISBN 0-89774-389-X).

Commonwealth Universities Yearbook 1988. Ed. by Tom Craig. Detroit: Gale, 1988. 3,000p. 4v. $198 (ISBN 0-85143-113-5). LC 59-24175.

Crimando, William, and T. F. Riggar. *Handbook for In-Service Training in Human Services.* Carbondale: Southern Illinois Univ. Pr., 1988. 180p. $14.95 (ISBN 0-8093-1402-9). LC 87-36967.

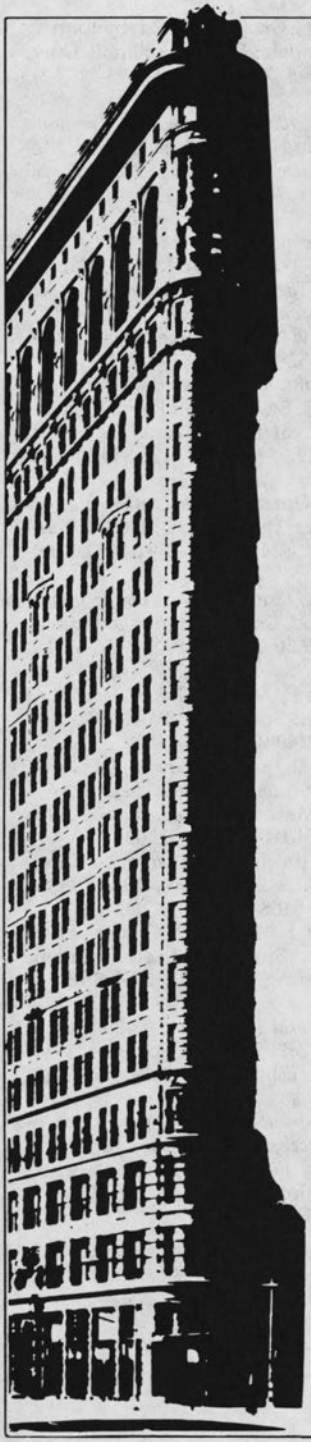
Ellingtonia: The Recorded Music of Duke Ellington and His Sidemen. Comp. by W. E. Timner. Metuchen, N.J.: Scarecrow, 1988. 554p. $49.50 (ISBN 0-8108-1934-1). LC 86-21967.

Ferguson, Brian, and Leslie Farragher. *The Anthropology of War: A Bibliography.* Harry Frank Guggenheim Foundation, Occasional Papers no. 1. New York: Guggenheim Foundation, 1988. 361p.

French Novelists, 1900–1930. V.65. Ed. by Catharine Savage Brosman. Detroit: Gale, 1988. 381p. $95 (ISBN 0-8103-1743-5). LC 87-25822.

French Novelists, 1930–1960. V.72. Ed. by Catharine Savage Brosman. Detroit: Gale, 1988. 478p. $95 (ISBN 0-8103-4550-1). LC 88-16462.

Germans To America. V.1. Ed. by Ira A. Glazier and William P. Filby. Wilmington, Del.:



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Grenville, J. A. S. *Major International Treaties: 1914–1945. A History and Guide with Texts.* New York: Methuen, 1987. 268p. (ISBN 0-416-08092-8). LC 87-14091.

Grenville, J. A. S., and Bernard Wasserstein. *Major International Treaties since 1945: A History and Guide with Texts.* New York: Methuen, 1987. 528p. (ISBN 0-416-38080-8). LC 87-11250.

Herbs, Spices, and Medicinal Plants: Recent Advances in Botany, Horticulture, and Pharmacology. V.3. Ed. by Lyle E. Craker and James E. Simon. Phoenix: Oryx, 1988. 220p. $69.50 (ISBN 0-89774-360-1).

Higher Education in the European Community: Student Handbook. Ed. by Brigitte Mohr and Ines Liebig. Phoenix: Oryx, 1988. 470p. $29.50 (ISBN 0-89774-550-7).

International Trade Names Dictionary: Company Index. Ed. by Donna Wood. Detroit: Gale, 1988. 350p. $210 (ISBN 0-8103-0691-3).

International Trade Names Dictionary. Ed. by Donna Wood. Detroit: Gale, 1988. 366p. $240 (ISBN 0-8103-0690-5).

King Vidor. Ed. by Nancy Dowd and David Shepard. Metuchen, N.J.: Scarecrow, 1988. 309p. $29.50 (ISBN 0-8108-2161-3). LC 88-18250.

Leppa, Carol J., and Connie Miller. *Women's Health Perspectives: An Annual Review.* V.1. Phoenix: Oryx, 1988. 240p. $45 (ISBN 0-89774-452-7). LC 88-19676.

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Newman, John. *Vietnam War Literature: An Annotated Bibliography of Imaginative Works about Americans Fighting in Vietnam,* 2d ed. Metuchen, N.J.: Scarecrow, 1988. 299p. $27.50 (ISBN 0-8108-2155-9). LC 88-15747.

Oppelt, Norman T. *Southwestern Pottery: An Annotated Bibliography and List of Types and Wares.* Metuchen, N.J.: Scarecrow, 1988. 325p. $35 (ISBN 0-8108-2119-2).

Papers of Ulysses S. Grant. V.15. Ed. by John Y. Simon. Carbondale: Southern Illinois Univ. Pr., 1988. 691p. $47.50 (ISBN 0-8093-1466-5). LC 67-10725.

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Peters, Robert. *Letter to a Tutor: The Tennyson Family Letters to Henry Graham Dakyns.* Metuchen, N.J.: Scarecrow, 1988. 288p. $29.50 (ISBN 0-8108-2103-6). LC 87-32368.

Proctor, Nick H. *Chemical Hazards of the Workplace.* Philadelphia: Lippincott, 1988. 590p. $54.50 (ISBN 0-397-53025-0). LC 87-30982.

Reader's Adviser: The Best in the Literature of Science, Technology and Medicine. V.5. Ed. by Paul T. Durbin. New York: Bowker, 1988. 725p. $75 (ISBN 0-8352-2149-0). LC 57-13277.

Renaissance Humanism: Foundations, Forms, and Legacy. V.1, 2, 3. Ed. by Albert Rabil, Jr. Philadelphia: Univ. of Pennsylvania Pr., 1988. 1,598p. 3v. $129.95 (ISBN 0-8122-8066-0/set). LC 87-13928.

Research Centers Directory 13th Edition. Ed. by Peter D. Dresser. Detroit: Gale, 1988. 1,829p. 2v. $380/set (ISBN 0-8103-2591-8). LC 60-14807.

Salter, Charles A., and Jeffrey L. *On the Frontlines.* Englewood, Colo.: Libraries Unlimited, 1988. 170p. $19.50 (ISBN 0-87287-658-6). LC 88-8805.

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Walker, Warren S. *Twentieth-Century Short Story Explication.* Supp. 4 to 3d ed. Hamden, Conn.: Shoe String, 1989. 335p. $45 (ISBN 0-208-02188-4).

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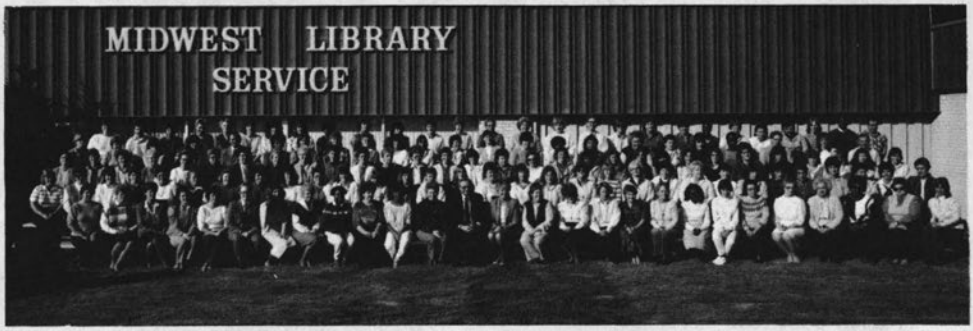

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College & Research Libraries

Prepared by Eldon W. Tamblyn

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